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RANDOM NOTES ON THE FEEDING HABITS OF SOME KENTUCKY BIRDS

BY BEN. J. BLINCOE

In reviewing my Kentucky field-notes I find a number of interesting records relating to feeding habits of various birds. The greater part of this material so well corresponds with published accounts of feeding habits that it is deemed best to prepare for the present paper mainly such notes as deal with unusual incidents connected with feeding habits, though some well known habits are mentioned. The observations, from which these notes result, were made principally about my home, at the time, Cherry Hill Farm, near Bardstown, Nelson County, Ky.

The notes deal with five species, namely: Red-bellied Woodpecker, Purple Finch, Cedar Waxwing, Tufted Titmouse, and Carolina Chickadee. No attempt is made to give a complete account of the feeding habits of these birds, nor are these notes intended to bear on the economic status of the birds under consideration.

Feeding habits of our birds are none to well known. By dissection the food of a bird may be ascertained, but it is for the field observer to learn the details of how birds secure their food, and to note their peculiarities and characteristics while feeding. Perhaps these random notes will stimulate others to make more detailed studies along this line.

Red-bellied Woodpecker — *Centurus carolinus*

This species was one of the common resident birds about Bardstown. Being rather more noisy than other woodpeckers while feeding, its food habits were more frequently observed in the field than were the feeding habits of other members of its family. According to F. E. L. Beal, (Food of the Woodpeckers of the United States. Bulletin 37. Biological Survey.) a little more than two-thirds of the food of this bird consists of veg-

etable matter, and it is the smallest consumer of insects of the woodpeckers east of the Rocky Mountains.

The red-bellied woodpecker is a heavy feeder on beech and oak mast. In the early fall its incessant "cha-cha-cha" was a familiar sound in the beech woods about Cherry Hill. I never observed it in the act of storing beech mast though on numerous occasions red-bellied woodpeckers were seen carrying beechnuts to a considerable distance from the trees from which they were secured. Very likely many of these nuts were wedged in cracks or crevices for future use. However, in the fall of 1913, a red-belly was seen storing the acorns from a Chinquapin Oak (*Quercus acuminata*) which stood over the wood-pile at Cherry hill. The acorns were carried, one at a time, to fence posts ranging from twenty-five to three hundred yards distant from the oak tree, and were generally wedged in a crack in the post, usually near the top. One acorn was placed in a cavity caused by decay, and laid loosely on the rotten wood. As far as my observations went, but one acorn was deposited in a single post. Doubtlessly, the hoarding of mast by this bird is a common practice though it has received little attention from ornithological writers.

On May 4, 1920, I happened to notice a red-bellied woodpecker as it flew from the ground carrying the larger part of a walnut shell, which was taken to a large limb of a sugar maple. There the nutshell was held in its claws as the bird clung to the limb in true woodpecker fashion, and I could see that it was dipping its bill into the nutshell, evidently eating the kernel. A short time previous to this occurrence I had been cracking walnuts on the spot from which the woodpecker was seen to arise from the ground with the walnut shell between its mandibles. There was an abundant walnut crop in the autumn of 1920, the greater part of which remained on the ground in good shape until the following summer, a circumstance likely due to the mild winter. On April 26, 1921, a red-bellied woodpecker was seen to fly from a stump with part of a walnut shell and alight on a tree nearby. On approach it flew away out of sight, still carrying the nutshell between its mandibles. About fifteen minutes before this woodpecker was seen, I had been cracking walnuts near the stump on which I noticed the red-belly with the nut. Although these two incidents are hardly substantial evidence that the red-bellied woodpecker feeds on walnut kernels

under natural conditions they suggest the possibility of such a food habit. By wedging a walnut firmly in a crotch or crack, it seems possible that the red-bellied woodpecker would be able to drill through the shell and secure the kernel, but it is with considerable apprehension that I make this statement.

On the 2nd of March, 1917, snow covered the ground; while passing near the corncrib at my home my attention was attracted by a red-bellied woodpecker clambering over the outside of the building. The cause of its presence on the crib was quickly apparent. Pushing its bill between two boards it drew out a grain of corn, flew to a peach tree close by, and straightway made a meal of the kernel of corn. On another occasion, while working in the crib, a gentle tapping on the outside of the building was "spooks" until a harsh "cha-cha" announced the author of the mysterious knocking. At irregular intervals the tip of the woodpecker's bill appeared through the cracks between the boards, and finally it secured a grain of corn that lay on a part of the frame work of the building. It was frequently observed at the crib all through that same spring. During the exceptionally severe winter of 1917-18 a red-bellied woodpecker came frequently to my feeding station, but was so unpopular with the other birds that none of them would remain as long as the woodpecker was about. Crushed corn was eaten, though sparingly, and the bird kept up a continual outcry as if complaining for the want of something better.

Cherries both sweet and sour grew at Cherry Hill. In season both varieties were eaten by the red-bellied woodpecker, but the sour fruit seemed to be most relished. A tree standing in the corner of the garden farthest from the house, each year in the fruiting season, was more often visited by this species than any other cherry tree on the place. A fence post, directly under the branches of the tree, was invariably used as a "lunch counter," that is, on plucking a cherry, red-belly would drop to the top of this post to eat the fruit. All through the cherry season it was a common sight to see a red-bellied woodpecker, with a cherry between its mandibles, flying from toward the orchard to a woods a quarter of a mile distant. On May 17, 1921, I happened to notice a red-belly in a cherry tree that stood near the house. After a time it pulled a fruit and flew a short distance to a small dead sugar maple. The bird was not more than ten feet from the window through which I was observing its actions. I could see

plainly that it wedged the cherry behind a piece of loose bark and, bit by bit, devoured it. The actions of this bird clinging to the tree trunk, its tail pressed against the bark as it deliberately devoured the cherry, strongly suggested the movements of the yellow-bellied sapsucker in the act of extracting the sap from the holes which it drills for that purpose.

Throughout the summer the wild cherry (*Prunus serotina*) ripens and is an important element in the food of several species of birds at that season. In August both adult and young red-bellied woodpeckers fed on this wild-fruit which seldom failed at Cherry Hill.

On the morning of October 6th, 1916, while passing through the orchard, I observed a red-belly as it flew into an apple tree further on in the orchard. Approaching this tree rather cautiously, I came upon the woodpecker in the act of eating a hole in the side of an apple. For about two minutes the bird seemed unaware that it was under observation and continued to peck at the fruit. Then, as if realizing that it had been discovered, it suddenly flew off to the woods. Climbing the tree, I found that the apple on which it had been working bore a decayed spot near the stem and just at the edge of it, but entirely in the solid part of the apple, was a hole about half an inch across, and three-quarters deep. The bottom of this cavity contained several tiny holes, markings made by the woodpecker's mandibles. In the early winter, frequently, a red-belly would be seen feeding on an apple that remained on the tree, though decayed and practically dried up.

Although more common in the woods, the red-bellied woodpecker was not an uncommon bird in Bardstown, being frequently seen in street trees in the business section of the town. Possibly it will gradually become accustomed to the advances of civilization as its natural haunts are but slowly being destroyed in that locality.

PURPLE FINCH — *Carpadacus purpureus purpureus*

The purple finch occurred irregularly as a migrant in the Bardstown region. It was abundant in the winter of 1919-20, the only time that I found it at all common at that season. During that winter some few notes were made regarding its feeding habits which may be of interest.

On February 16, 1920, I observed a small flock of purple

finches in a cedar thicket and one individual was under observation for several minutes as it fed on the cedar berries (*Juniperus virginiana*). The skin was removed from the seed before the bird swallowed it, the skin dropping on the snow-covered ground below. The snow under the tree on which the purple finches were feeding was strewn with the small particles of skin of cedar berries. Red cedars were apparently as attractive to the purple finch in winter as were the blooming elms in the spring.

The first week of March, 1920, was cold and blustery with several inches of snow on the ground. On the 8th I passed through the cedar thickets that had furnished winter food for the purple finch but now the trees were entirely stripped of berries. In the underbrush at the foot of a hill sheltered by a beech woods, I found a flock of purple finches. I noticed, in the snow, signs of some bird having fed on the berries of the buck bush (*Symphoricarpos vulgaris*) and as I had never seen any bird feed on the berries of this bush I became much interested and remained nearby to learn, if possible, what bird it was. Soon several purple finches flew into the brush near me and two of them alighted on clusters of berries on the buck bushes, and were seen to peck at the berries for sometime, apparently eating many of them. This shrub is one of the most common and widely distributed woody plants in uncultivated lands about Bardstown, but the large crop of berries produced annually seem to be almost wholly untouched by birds.

On March 12, 1920, I saw three or four purple finches on the ground in a woods searching among the fallen leaves. I could not determine on what they were feeding, but this is the only instance of ground feeding of this species that I have ever observed.

Whenever present, the purple finch is closely associated with the blooming elm trees in the spring. On numerous occasions I have observed it feeding on the buds and blooms of both the common elm (*Ulmus americana*) and the slippery elm (*U. fulva*). To my mind, one of the most delightful treats of the spring migration in the Bardstown region was the return of the purple finch. Usually appearing when the odor of blooming elms seems to blend with their wild, delicate warble, the purple finch is the embodied spirit of a fair March day.

The spring of 1920 was very backward. Slippery elms were still blooming late in April. On the 27th a dozen or more purple finches were observed feeding on the bloom of several small slippery elms growing along the bluffs overlooking the Beech Fork river. Four birds from the flock flew down to a smooth sumach (*Rhus glabra*) near where I was standing and for some time all four of them fed on the sumach seed.

CEDAR WAXWING—(*Bombycilla cedrorum*)

Having a reputation as a large feeder on fruit and a small consumer of insects, I was greatly interested to find, some years ago, a flock of cedar waxwings that seemed to be feeding entirely on insects. This occasion was on the afternoon of May 14, 1916. I chanced to be at the Beech Fork River, a mile south of Cherry Hill, and on my arrival I noticed quite a number of small birds "flycatching" over the river. A flock of flycatchers would have been a novelty indeed, so with keen anticipation I approached the river bank where the birds were perched in the sycamore trees and willow bushes that lined the river shore at this point. I was surprised, though not disappointed, to find that my "flycatchers" were cedar waxwings.

There were, possibly, a hundred individuals in the flock, but it was very difficult to determine their exact number owing to the constant flying from place to place of many birds at the same time. While perching they sat very erect, assuming the pose of flycatchers, and like flycatchers they chose points of vantage from which to fly out after a passing insect. In action they appeared almost as expert as phoebe or wood pewee, catching many insects at the first attempt, while others were pursued with much turning and twisting on the part of the waxwing. Ten to twenty birds were always on the wing in the act of pursuing and capturing insects. They were so very alert, or so craved insect food, that frequently two birds gave chase to the same victim, and several times three birds pursued the same one.

Most of the waxwings were well up in the trees and capturing insects thirty to sixty feet in the air; a few, however, were stationed atop some willow bushes growing in the water and these caught low flying insects. After making a capture the waxwings frequently returned to the point from which they flew, but more often other favorable perches were chosen, and frequently a bird flew entirely across the river after making its

catch. It was impossible to keep a particular individual under observation for more than two or three minutes as they were continually shifting their positions, and so many birds on the wing at one time was aften very confusing when attempting to follow up the movements of a certain bird.

I could not determine the identity of the insects caught but it could be seen that different size insects were captured, and it seemed that every insect, regardless of species, was pursued immediately on being perceived by the waxwings. It was likely that the larger part of the insects caught were small diptera as there were many insects of that order in flight. After watching these birds for nearly an hour, apparently they pursued insects with as much vigor as when I first arrived at the river, and their numbers had not decreased. There was no fruit, either wild or cultivated, anywhere nearby and as the waxwings kept to the sycamores and willows, directly on the river bank, it appeared that insect food, taken on the wing, was the only thing that attracted them at the time.

A week later, May 21, 1916, I visited the same place and found about twenty-five waxwings engaged in "flycatching" as actively as on the other occasion, a week previous. However, on visiting the river on May 28, 1916, expressly for the purpose of determining if the waxwings were still lingering there, I found that they were not, and they were not seen again during the summer along the river.

On a number of occasions in late summer and early fall cedar waxwings were noticed "flycatching" from the tops of the apple trees in the orchard at Cherry Hill Farm. Several times in the fall I have seen individuals of a flock capturing insects from the tops of red cedars (*Juniperus virginiana*) while others of the same flock fed on the cedar berries. At all times while capturing insects on the wing, the attitude of the waxwing while perching was strictly a characteristic flycatcher profile. In a hawk-like position, with crest erect, the attitude of the flycatching waxwing was quite a contrast with the seemingly indolent attitude assumed by the cherry-eating waxwing.

During the apple bloom season of 1916, cedar waxwings were continually present in small flocks among the blooming apple trees in the orchard at Cherry Hill Farm. I had supposed that they were among the apple blossoms for the purpose of catching

insects as were the orioles and warblers, but watching them closely on one occasion I saw that they were pulling the petals from the apple blossoms and swallowing them. Nearly every bird in the flock was eating apple bloom petals and those that were not sat lazily among their companions as if they could eat no more. I observed the same thing on several subsequent occasions, and it appeared each time that the waxwings fed solely on the apple bloom and in no way molested the hordes of insects among the blooming trees.

Sour cherries were sometimes eaten by the waxwings at Cherry Hill but usually only at the time that the fruit was just beginning to ripen. The actual loss from the depredation of waxwings was altogether insignificant as far as the cherry crop at Cherry Hill was concerned. The wild cherry (*Prunus serotina*) was much eaten in season by this species whenever it was present, though frequently it was absent during late summer at the time wild cherries abound. The frost grape (*Vitis cordifolia*) seemed to be a favorite food in the fall and as long as they remained on the vines in winter. Hackberries (*Celtis occidentalis*) were also eaten in winter and as they remained on the trees well into the spring they were probably eaten at that season.

CATBIRD — (*Dumetella carolinensis*)

The catbird has a wide reputation as a cherry and strawberry depredator. During the cherry season at Cherry Hill it was one of the most regular visitors to the cherry trees but the actual loss of cherries eaten by birds was not noticeable. The first few strawberries were usually punctured by catbirds but by the time the berry season was well started the berries were seldom molested.

On June 12, 1920, while standing near a large sweet cherry tree in the yard at Cherry Hill, I noticed a catbird perched on a large knot on the trunk of the tree seven or eight feet above the ground. In the center of the knot there was a small hole, caused by decay, from which emerged a steady stream of termites, or "flying ants," on which the catbird was feeding. It snapped up the insects just after they took wing and were still within a few inches of the hole from which they flew. During a minute's time it caught at least twenty of the insects, every one in the air, but the bird sat on the knot and turning its head to conform

with the direction in which the termites flew, snapped them up as dexterously as a flycatcher would have taken them on the wing. Too near approach, on my part, caused the catbird to fly.

TUFTED TITMOUSE (*Bæolophus bicolor*)

During twelve years residence at Cherry Hill Farm I had never seen any species of bird eat cultivated grapes, of which there were many on the place, until August 9, 1921. While standing under an arbor covered with Concords on that date, a titmouse flew from the orchard nearby and alighted among the grapes only ten of twelve feet from me. Flitting among the grapes it soon pulled one from a bunch and quickly swallowed it; after a few seconds it pulled another grape and swallowed it as quickly as the first. Then, as if entirely satisfied, it flew off to the orchard to join several of its kind who were busy among the orchard trees.

CAROLINA CHICKADEE (*Penthestes carolinensis carolinensis*)

I had never seen any bird feed on the seed of the redbud tree (*Circes canadensis*), nor can I find any published account of such an occurrence. Therefore, the following incident may be worth recording: On August 23, 1921, I was in a small thicket where redbud trees were numerous. Hearing a peculiar noise that somewhat resembled the grating of a squirrel's teeth on the surface of a hard nutshell, but realizing that it came from some other source, I curiously walked toward the direction from which the noise seemed to come. I had not moved more than ten steps before I discovered the origin of the unknown noise. In a low redbud tree, on which there was an abundant crop of the dry seed pods, three chickadees were busily pulling the pods and extracting the seeds. The breaking of the dry pods was the curious noise that I had heard, and as the three birds were continually working at the pods the crackling noise was likewise continual. Apparently, these three chickadees fed on the redbud seeds with appetite as, for several minutes, my presence very near them did not disturb their work. It was plainly seen that they were not merely nibbling at the seeds, but were swallowing them as fast as they could be removed from the pods.

Covington Pike, Dayton, Ohio
February 4, 1923.

SUMMER BIRDS OF CAPE COD COMPARED WITH THOSE OF MISSOURI

BY GORDON ALEXANDER

One accustomed to the more varied and abundant bird life of the Missouri river territory connot fail but be impressed by the relative poorness of the summer bird fauna of Cape Cod both in number of species and number of individuals. This statement of course does not apply to birds typical of the sea-coast, gulls and terns especially, but as a general statement it is true. That was the impression I gained from observations made in the summer of 1921. With the exception of that one summer, my own experience with birds has been gained in Missouri. From the second week in June to the fourth week in August, 1921, I was a member of the collecting crew of the Marine Biological Laboratory at Woods Hole, Mass.; and in such capacity often had the opportunity to make interesting observations of birds. This was, however, only incidental to the regular collecting work, which involved marine invertebrates and fishes, principally.

The territory of the report includes the "heel" of the Cape—the east shore of Buzzards Bay north to its head, at Onset, west along Vineyard Sound to Waquoit Bay; Marthas Vineyard and Nantucket Islands; and the Elizabeth Islands. For my basis of comparison in Missouri I have selected the Missouri river country in the central part of the state, for I am most familiar with that region. One may ask with good reason what may justify the comparison of such widely separated localities. To this let me say that the separation in miles is not the basis of the comparison. Other factors are involved, — factors which might just as easily be present in adjoining territories. The facts discovered may not lead to an absolute generalization. They only furnish data that may be interpreted as links in the chain of ecological factors that conspire to make one fauna different from another. And ecology not only yields information to the theoretical student of organic evolution, but has an economic value as well.

At Woods Hole, I was continually struck by what seemed to me the poverty of the territory from the standpoint of a bird student. This was partially due to my lack of familiarity with the territory, but surely not altogether. I have the more reason to doubt that since Mr. Henry W. Henshaw, who was at Woods

Hole a part of the summer, expressed that opinion regarding the Woods Hole region. His basis for comparison was the territory about Washington, D. C. And with such extensive experience as his back of his statement, I could not help but feel that there was some foundation for my impression.

In searching for an explanation of this condition, I have come to the conclusion that the most potent factor involved is the relative acreage of land under cultivation. The land along the Missouri river is largely in farms. There is very little waste land. On the other hand, Cape Cod is not an agricultural territory. Much of the land is overgrown with straggly pitch pine, and the soil is not valuable when tilled. The pitch pine is not good bird-cover, and very little good bird-cover will grow where this awkward, angular tree flourishes. Of course all of Cape Cod is not such a barren waste as one sees in the dune region of northern Indiana, but there is enough of this kind of territory to consider in a study of birds, nesting birds especially. The deciduous trees on the mainland have suffered extensively from the gypsy and brown-tail moths, but I saw no evidence of damage on any of the Elizabeth Islands. Nevertheless, bird life was nowhere abundant, although some few species were much in evidence. It is to be noted that there were fewer insectivorous birds in numbers of individuals than there were birds of other food habits. From this fact I believe that that scarcity was due, not to poor bird-cover, but to the lack of insects for food.

Cape Cod is representative of the eastern transitional or Alleghenian life zone. Missouri, at least that portion concerned in this comparison, is eastern Upper Austral, or Carolinian. The differences between the two zones are not great, and there is naturally much overlapping. Furthermore the comparison is not altogether that of zones. Cape Cod is, I believe, hardly typical of the Alleghenian, and yet it is just as truly of that zone as is the larger portion of Wisconsin. Both Cape Cod and Missouri are in the so-called humid area, but the humidity is decidedly greater on the Cape. This difference can not be of great significance, however. Aside from the fact that the areas are in different life zones, as I have said before Missouri has a much larger acreage under cultivation, relatively speaking as well as actually, than has Cape Cod. Then too, that which is "cultivated" on the Cape is largely in the nature of "land-

scaped" estates which may provide bird houses but seldom brush piles for the birds. These facts largely explain the apparent scarcity of summer birds on the Cape, while the differences in zone explains the distinctive characters of the two faunas.

I could not help noticing the absence of certain species and the comparative scarcity of certain others which I had expected to find abundant. During the entire summer I saw no Nighthawks, Bluebirds, Brown Thrashers, or Blue Jays. Robins were not common, nor were Field Sparrows. On the other hand, Song Sparrows were everywhere. They were very abundant. Barn Swallows were very common. Purple Finches were common, as also Maryland Yellow-throats and Chestnut-sided Warblers. The Song Sparrows, Purple Finches, and Chestnut-sided Warblers are typical of the Alleghenian zone.

Two groups of birds seemed to be particularly uncommon. A Marsh Hawk on Nantucket Island was the only bird of prey I recorded all summer. A Bald Eagle was recorded by a student at the Laboratory, from Buzzards Bay, that being the only record other than my own of which I heard. The woodpeckers were also rare. Of these I saw one each of the Downy and the Flicker — not another individual. I can make no suggestion in explanation of the rarity of the hawks. (Regarding the woodpeckers, see annotations under species.) The summer of 1921 may have been exceptional from the standpoint of this observed rarity but my observation was certainly true for the period of time covered.

The appended list includes the forty-nine species that I observed with five added that were only recorded by students at the Laboratory. A summer list for Missouri (reflecting the same amount of observation) should show some sixty-five or seventy species nesting. It is to be remembered, too, that the following list includes not only nesting birds but some early fall migrants and a few non-breeding, irregular, summer residents. For information on the presence of certain species in Missouri I have referred to the reports of Mr. Otto Widmann of St. Louis, and Mr. Harry Harris of Kansas City. I have also checked my Cape Cod records with the reports of competent authorities for that region. I am indebted to Mr. George M. McNeil of Ithaca, N. Y., for first-hand information regarding sea-birds. He was engaged for the first part of the summer in collecting birds of the open ocean to the south and east of the territory of this report.

1. Loon—*Gavia immer.*

Two were seen July 29 a short distance off shore in Buzzards Bay. Others were reported during the summer. These were very likely non-breeding individuals. In Missouri, where I have never seen it, the Loon is only an uncommon transient or winter resident.

2. Herring Gull—*Larus argentatus.*

Not uncommon up to the last of June. Immature individuals rather common after August 15. Occasional, non-breeding individuals were seen during July and the first half of August. Herring Gulls are regular, though not common, migrants on the Missouri.

3. Laughing Gull—*Larus atricilla.*

Very common throughout the season. Nested on the Weepeckets, Buzzards Bay, about three miles from Woods Hole. Extra-limital in the Middle West.

4. Common Tern—*Sterna hirundo.*

The more common tern. Nesting on the Weepeckets and Pine Island in company with the next following species. Spring transient (May) in Missouri, but rather rare.

5. Roseate Tern—*Sterna dougalli.*

Fairly common, but less so than the Common Tern. Readily distinguished in flight by its longer tail, and its black bill. The pinkish tinge to the breast is not then noticeable.

I have seen neither the Common nor the Roseate in Missouri, where I have noted only the Least as breeding, and the Black Tern as a transient.

6. Wilson's Petrel—*Oceanites oceanicus.*

A few were observed on Nantucket Sound several miles from shore.

7. White-winged Scoter—*Oidemia deglandi.*

Several flocks of non-breeding stragglers remained in the vicinity of Woods Hole throughout the summer. One individual was picked up in a famished condition and taken to the Laboratory, where it died in a short time. The bird's feathers were not oily. I have no explanation of its inability to get food.

8. Little Blue Heron—*Florida caerulea.*

One or two birds which I identified as belonging to this species were seen at Hadley Harbor, Uncatena Island, the second week in August. Little Blue Herons regularly wander north after the nesting season on the Atlantic Coast as well as in the Mississippi Valley. They are frequently observed along the Mississippi in Missouri, but are less common on the Missouri in the central part of the state.

9. Green Heron—*Butorides v. virescens.*

Fairly common throughout the summer. Present with the same status in Missouri.

10. Black-crowned Night Heron—*Nycticorax nycticorax naevius.*

Several pairs were observed at a fresh-water pond at Falmouth, where we frequently collected planarians. Though I saw no nests, they were doubtless in the vicinity. I have never seen the species in Missouri, but it was formerly regular though uncommon as a transient and as a summer resident.

11. White-rumped Sandpiper—*Pisobia fuscicollis.*

On July 29 I saw a flock of fifteen of these birds on Cuttyhunk Island. The species is rather rare in Missouri, but I believe more common on the Atlantic Coast.

12. Least Sandpiper—*Pisobia minutilla.*

One individual was seen at Cuttyhunk July 29. Fairly common transient on the Missiouri River.

13. Spotted Sandpiper—*Actitis macularia.*

This species proved to be fairly common on the Cape throughout the summer, and was doubtless breeding, though I saw no nests. Present in the Missouri River bottoms during the summer, but far more common as a transient.

14. Piping Plover—*Ægialitis meloda.*

Two individuals were noted on the beach at Nantucket July 24.

15. Bob-white—*Colinus v. virginianus.*

Fairly common summer resident. Somewhat more common in Missouri.

16. Ruffed Grouse—*Bonasa u. umbellus.*

One adult and one young grouse were flushed together in timber land near Waquoit Bay. Formerly present in Missouri, but now believed to be extinct here.

17. Marsh Hawk—*Circus hudsonius.*

The only Raptore noted during the summer. One individual was flushed from a grassy meadow on Nantucket Island July 24. A regular, not uncommon transient, and occasional winter visitant along the Missouri River in Missouri.

18. Black-billed Cuckoo—*Coccyzus erythrophthalmus.*

Recorded as fairly common near Falmouth. Uncommon in Missouri, where the Yellow-billed is far more abundant.

19. Belted Kingfisher—*Ceryle a. alcyon.*

Frequently recorded during the summer; probably nesting. More common than in Missouri during the summer.

20. Downy Woodpecker—*Dryobates pubescens medianus.*

Only one individual observed. The woodpeckers of the Cape were very rare; while along the Missouri they are distinctly abundant. This abundance is due, I believe, to the extensive areas of uncleared land along the river overgrown with deciduous trees.

21. Flicker—*Colaptes auratus luteus.*

Only one individual recorded. Very common in Missouri.

22. Chimney Swift—*Chaetura pelagica.*

As in Missouri, a very common summer resident.

23. Kingbird—*Tyrannus tyrannus.*

A common summer resident about Woods Hole and Falmouth. Somewhat more abundant in Missouri.

24. Wood Pewee—*Myiochanes v. virens.*

Fairly common summer resident. About the same relative abundance in both territories considered.

25. American Crow—*Corvus b. brachyrhynchos.*

A very common species both on the Cape and in Missouri; and in both areas evincing a great fondness for water—not so much for the

sake of the water, of course, as for the food in and near it. On the Cape, Crows were very common along the shore; in Missouri they gather in small flocks on the sandbars of the Big Muddy.

26. Cowbird—*Molothrus a. ater.*

Common at Falmouth. Present with the same status in Missouri.

27. Red-winged Blackbird—*Agelaius p. phoeniceus.*

Commonly nesting in marshes along the coast. More common along the Missouri, however, where nests are built in the willows as well as in the marsh grass and cattails.

28. Meadowlark—*Sturnella m. magna.*

Very common summer resident in Missouri, but recorded only from Nantucket Island during the summer of 1921. It was apparently fairly common there.

29. Baltimore Oriole—*Icterus galbula.*

The Baltimore and Orchard Orioles are both very common summer residents in Missouri, but only the former is present regularly on the Cape. There I found it fairly common.

30. Purple Grackle—*Quiscalus q. quiscula.*

The common Grackle of the Cape, replaced in Missouri by the apparently larger, and certainly lighter-colored, Bronzed Grackle (*Q. q. aeneus*). Probably the color accounts for the apparent difference in size, as it is a well-known, psychological fact that lighter-colored objects appear larger than darker-colored ones of the same size.

31. Purple Finch—*Carpodacus p. purpureus.*

I found this species very common at Woods Hole. Young out of the nest were seen the last week in June. Present as a winter resident or transient in the Missouri River country.

32. Goldfinch—*Astragalinus t. tristis.*

Rather common about the town of Woods Hole. About the same relative abundance in Missouri.

33. Vesper Sparrow—*Pooecetes g. gramineus.*

One individual was seen near Falmouth the 15th of July. I do not believe that the species was common on the Cape. It is not a regular summer resident in Missouri, but is not uncommon during the migrations.

34. Chipping Sparrow—*Spizella p. passerina.*

Common summer resident in both regions compared.

35. Field Sparrow—*Spizella p. pusilla.*

Only occasionally heard or seen on the Cape, but one of our most abundant sparrows in Missouri.

36. Song Sparrow—*Melospiza m. melodia.*

I was greatly impressed by the number of nesting birds of this species about Woods Hole. It is present as a winter resident in Missouri, and is then very common in the dense willow growths of the river bottoms.

37. Towhee—*Pipilo e. erythrophthalmus.*

As a summer resident of the Cape, the Towhee was more in evidence than it is in Missouri. It was fairly common, and its call note was frequently heard.

38. Cliff Swallow—*Petrochelidon l. lunifrons.*

On July 24 I saw several birds of this species at Nantucket. They were lined up on telephone wires along a dusty road. Rather uncommon transient in Missouri, and decidedly rare as a summer resident.

39. Barn Swallow—*Hirundo erythrogastra.*

Very abundant in the Woods Hole region. Much less in evidence, though common, along the Missouri River in this state.

40. Bank Swallow—*Riparia riparia.*

Several recorded at Nantucket July 24. Locally present in colonies in Missouri.

41. Red-eyed Vireo—*Vireosylva olivacea.*

One recorded at Woods Hole the middle of August. Not uncommon summer resident in Missouri.

42 Black and White Warbler—*Mniotilta varia.*

Fairly common summer resident on the Cape. Rarely nesting in Missouri.

43. Yellow Warbler—*Dendroica ae. aestiva.*

Only fairly common on the Cape, but a very common nesting bird of the Missouri River bottoms where its nests are easily found in the willow "brakes."

44. Chestnut-sided Warbler—*Dendroica pensylvanica.*

Very common nesting bird about Woods Hole and Falmouth. Two families of young birds were seen out of the nest on July 4. Present in Missouri only as a rather uncommon transient, much more regular in the eastern than in the western part of the state.

45. Oven-bird—*Sciurus aurocapillus.*

The song of the "Teacher-bird" was among the most common in all the timber-land of the Woods Hole region. The bird is rare as a summer resident in Missouri.

46. Maryland Yellow-throat—*Geothlypis t. trichas.*

Common on the Cape—as much so as in Missouri, where it is very much in evidence.

47. Catbird—*Dumetella carolinensis.*

Present, but not so abundant on the Cape as it is in the dense timber-land of the Missouri River bottoms.

48. Chickadee—*Penthestes a. atricapillus.*

Summer resident in the Woods Hole region, but more common in Missouri.

49. Robin—*Planlesticus m. migratorius.*

As I have mentioned previously, this species was much less abundant at Woods Hole than I expected to find it. It could only be considered as fairly common there, while it is distinctly abundant in the territory I have used for my comparison.

The following species were reported on good authority, but were not on my list:

50. American Bittern—*Botaurus lentiginosus.*

One individual.

51. Woodcock—*Philohela minor.*

One individual, near Woods Hole.

52. Bald Eagle—*Haliæetus l. leucocephalus.*
Recorded as flying over Buzzards Bay.
53. Swamp Sparrow—*Melospiza georgiana.*
One seen near Woods Hole.
54. Prairie Warbler—*Dendroica discolor.*
A pair was reported as nesting near Woods Hole.

Marshall, Mo., June 28, 1922.

NOTES ON THE BIRD LIFE OF ALLEGHENY COUNTY, PENNSYLVANIA

Thomas D. Burleigh

Allegheny County lies in the southwestern part of the state and because of its varied topography offers an interesting field for bird study. A limited field, however, for the city of Pittsburgh occupies its center and one can cross the county line within twenty miles of practically any point at the edge of the city. As is more or less well known the Allegheny and Monongahela rivers unite here to form the Ohio, and these rivers unquestionably are an important factor in the distribution of the bird life of this region. This is not only true of the migrants which follow these streams in their journeys north and south but also of the breeding birds, for there are some species such as the Blue-gray Gnatcatcher which I have found only in the stretches of woods bordering these rivers or along their larger tributaries, and others show a decided preference for such localities. On the whole this region is rather hilly and what might be termed moderately rough for the rivers are bordered by high bluffs cut at irregular intervals by open valleys or ravines and it is necessary to go back some distance before reaching much level country. This last is more often than not merely low broad plateaus between the numerous streams so a walk of any duration necessitates the crossing of occasional valleys or gulleys. Much of the land is farmed, but there are numerous stretches of woods covering not only hillsides and the scattered ravines and gulleys but also some of the more level country. The timber consists largely of second growth hardwoods of which many species are represented, those predominating being the white oaks, black oaks, hickories, ash, black willow, beech, black locust, white elm, red maple and sycamore. Conifers are scarce and widely scattered. An occasional field will be found over-

grown with scrub pine (*Pinus virginiana*) and in some of the ravines there are still a few small hemlocks and white pines. Where protected these latter occasionally form small pure stands but this is an exception.

Living in Pittsburgh I was able to do extended field work only over the week-ends but the city parks afforded an opportunity for securing data of interest that in some cases I could not get elsewhere. Highland Park, probably the largest in the city, contains the two large reservoirs that supply the city with water and being within fifteen minutes walk of my home I was able to visit them frequently during the spring and fall migrations and record the water birds that found these bodies of water pleasant and safe spots to break their long flights. Schenley Park, possibly the second largest, lacks this attraction but it does possess a large golf course which is much favored by the Prairie Horned Larks and is the only place within the city limits where this species breeds. At the south end of the city, tucked away in a ravine on the far side of the Monongahela river, lies one of the smaller recreation spots of the city, McKinley Park. It is not very well known except to those living in its immediate vicinity but its brush covered hillsides, scattered large trees and the small stream running through it attracts a surprisingly large number of birds and I found it both pleasant and profitable to wander through it at intervals.

At some time or other I have covered practically all the open country about the city that lies within the county limits, but the one locality that I know best is that about Harmarville. This is a small town ten miles up the Allegheny river that can offer within reasonable walking distance as much varied topography and ideal conditions for bird study as I have ever found anywhere. Deer Creek, which flows into the Allegheny river here, is a stream some twenty feet across at its widest, and it offers enough water and shallows to attract such species as the Belted Kingfisher, Spotted Sandpiper and Green Heron. The wooded hillsides and open fields that border it, intermixed with fields overgrown with underbrush, old orchards, cat-tail swamps, alder thickets, low cliffs and sandbanks, offer inducements that cause the breeding birds here to be many and varied. Squaw Run is another spot which I have worked to some extent but the stream here is much smaller and dwindles away within five miles of

where it flows into the Allegheny river. The valley itself is not very wide and soon narrows into a rugged ravine, the sides of which are thickly wooded. Possibly I know it as well as I do because it is within three miles of the city limits and must be passed in order to reach Harmarville.

The following list may and undoubtedly is not complete as far as migration records go but I feel that as far as the breeding-birds are concerned that few additions will have to be made in the future. Bird life does change to some extent as time goes on but after working this section rather thoroughly for five years and at infrequent intervals for the next seven years there should be little room for error. Like all beginners I made no attempt at first to keep careful field notes and some of the data that I did record has been mislaid somewhere so some of my statements may seem unjustified, but they are all based on careful observation. To the best of my knowledge but little has ever been published concerning the bird life of this part of the state so these notes may be of some interest and value.

HOLBOELL'S GREBE—*Colymbus holboelli.*

I have but one record for the occurrence of this species here. On Sept. 13, 1913, one bird was seen on one of the deeper stretches of water on Deer Creek.

HORNED GREBE—*Colymbus auritus.*

During the spring of 1914 this species was frequently observed on the two reservoirs in Highland Park, and it probably is a fairly common migrant here. The first bird was seen April 1 and for the next month there were few days when one or two were not in evidence. They usually fed near the shore so there was seldom any question as to their identity. The last bird was seen May 2, on the upper reservoir. On April 8, 1917, nine birds were seen, the largest number I had ever recorded at one time, four being on the lower and five on the upper reservoir.

PIED-BILLED GREBE—*Podilymbus podiceps.*

I have but one record for the occurrence of this species here, although one might reasonably expect to find it a regular and fairly common migrant. October 27, 1913, one bird was seen on the lower reservoir.

LOON—*Gavia immer.*

A scarce spring migrant and seen invariably on the lower and larger reservoir. There, however, it evidently suited them pretty well for they usually lingered a few days before moving on. In 1914 one bird was present on the 8th and 9th of April, and again on the 27th, 28th and 29th of the same month. For 1916 I have but one record, one bird being seen on April 25, but in 1919 one bird appeared surprisingly late, May 22, and

remained for three days apparently little inclined to depart for its breeding grounds. None have ever been recorded during the fall migration.

HERRING GULL—*Larus argentatus.*

This species is a regular spring migrant but at best decidedly erratic. During 1912 it was unexpectedly plentiful, for first seen February 10 it gradually increased in numbers until on March 29 fully forty were found resting quietly on the water on the lower reservoir. They showed no haste to depart that year for they decreased in numbers very gradually until April 21, when two were seen for the last time. Before and since but few have been recorded and there is no fixed date when they can be expected to arrive and depart. In 1913 three birds were seen for the first time on Feb. 12 feeding on the Allegheny River and the last bird was seen March 29 on the lower reservoir. In 1917 two birds were found April 6 resting on a sand bar in the middle of the Allegheny River.

COMMON TERN—*Sterna hirundo.*

On April 20, 1914, four birds were seen, one on the lower and three on the upper reservoir, resting quietly on the water. This is my only record for the occurrence of this species here.

RED-BREASTED MERGANSER—*Mergus serrator.*

A scarce and irregular migrant, and seen entirely on the lower reservoir. In 1913 two birds were seen March 26, and during the fall migration one bird lingered for five days, from the 26th through the 30th of October. In 1914 but one bird, a male, appeared during the spring migration but it made up for the lack of its fellow voyagers by remaining for ten days, from the 3rd through the 12th of April.

BLACK DUCK—*Anas rubripes.*

A regular but scarce migrant, avoiding the larger open bodies of water and showing a decided preference for the smaller ponds and streams. My only record for 1913 is one bird seen Oct. 5. In 1914 two birds were flushed on the 11th and 12th of April from a small swamp, and again on the 3rd of September one bird was found on Deer Creek.

BALDPATE—*Mareca americana.*

What records I have show it to be a scarce spring migrant only. In 1914 I saw one bird on April 8, with a flock of Scaup Ducks on the lower reservoir, and in 1917 a flock of seven birds, three of them males, were seen April 6 on the upper reservoir.

SCAUP DUCK—*Marila marila.*

LESSER SCAUP DUCK—*Marila affinis.*

Sight identification of these two species being impracticable and shooting impossible within the city limits I have never definitely known which was the commoner migrant although both undoubtedly occur here. They are abundant during both the spring and fall migrations and are one of the first of the water birds to arrive and the last to go. I have found them only on the two reservoirs and never for some unknown reason on the Allegheny river. In 1913 the first birds, three males, were seen March 23 and they were then plentiful until April 14 when four birds were seen for the last time. In the fall a flock of sixteen birds

appeared Oct. 26, the first for the fall migration, and Oct. 29 seven birds, two of them males, formed the last record for the year. In 1914 a flock of seven birds was seen February 22, my earliest record for the spring migration, and by the latter part of March flocks of varying size were in evidence daily. The last bird was seen May 17, a single bird on the lower reservoir.

GOLDEN-EYE—*Clangula clangula americana.*

During the spring migration of 1914 only did I record this species. March 16 one bird was seen and April 4 a flock of eight, the latter all males.

BUFFLEHEAD—*Charitonetta albeola.*

I have but one record for the occurrence of this species here. April 4, 1914, three birds, two of them males, were seen on the lower reservoir.

OLD-SQUAW—*Harelda hyemalis.*

This species is seemingly but a straggler here. I have recorded it but once, three birds appearing April 25, 1914, and remaining for three days on the lower reservoir.

WHITE-WINGED SCOTER—*Oidemia deglandi.*

This species I likewise have but one record for, one bird being seen May 13, 1914, on the lower reservoir.

RUDDY DUCK—*Erismatura jamaicensis.*

May 13, 1914, one bird was found on the upper reservoir. It was feeding near the shore and when approached dived quickly and remained under water for some time.

CANADA GOOSE—*Branta canadensis canadensis.*

Only once have I recorded this species here. November 1, 1913, while returning from a day's tramp through the woods a flock of fourteen birds was seen, flying noisily by overhead.

WHISTLING SWAN—*Olor columbianus.*

This was one species I had never expected to see within the city limits of Pittsburgh but April 8, 1914, I was pleasantly surprised to find two birds on the upper reservoir. They remained there the entire day and although they stayed well out from the shore they showed remarkably little concern over the people that frequently paused to watch them.

BITTERN—*Botaurus lentiginosus.*

My only record is a bird flushed May 4, 1914, from the edge of a small pond in an open ravine.

GREAT BLUE HERON—*Ardea herodias herodias.*

I have but one record for the occurrence of this species here. July 19, 1914, one bird was seen while following up Deer Creek for a short distance.

GREEN HERON—*Butorides virescens virescens.*

A common summer resident. My dates for the arrival of this species in the spring are April 21, 1912, April 21, 1916 and April 25, 1919. They are common within a few days after the first one is seen. My breeding records are May 20, 1911, five slightly incubated eggs, nest ten feet

from the ground in the outer upper branches of a haw; May 13, 1912, five fresh eggs, nest fifteen feet from the ground in the outer upper branches of a haw, and May 22, 1912, four slightly incubated eggs, nest thirty feet from the ground in the top of a slender elm. The nests are always in thick underbrush near water and never more than one pair of birds can be found in any one locality. My latest date for the occurrence of this species in the fall is one bird seen September 14, 1912.

SORA RAIL—*Porzana carolina.*

My records would indicate that this species is a very scarce summer resident although it may, owing to its secretive habits, be much commoner than is supposed. On May 28, 1912, while hunting through a small cat-tail swamp at Harmarville I unexpectedly stumbled upon a nest that held twelve well incubated eggs. It was substantially built of broken pieces of cat-tails and was but a few inches above the water. This is my only record for even the occurrence of this species here and I know of no other breeding records for this section of the state.

WOODCOCK—*Philohela minor.*

A common summer resident, and found either in marshy fields overgrown more or less with scrubby underbush or about small streams in the scattered short stretches of woods. April 26, 1914, a nest was found near Oakmont that held four slightly incubated eggs. It was a hollow in the ground lined with dead leaves and was at the foot of a small tree at the edge of an open field. June 7, 1915, three young birds, almost fully grown, were flushed in some underbrush at Harmarville.

WILSON'S SNIPE—*Gallinago delicata.*

I have but one record for the occurrence of this species here, two birds being flushed April 11, 1914, from the edge of an open field.

LEAST SANDPIPER—*Pisobia minutilla.*

A scarce migrant. In 1912 one bird was seen August 15 and 16 at the lower reservoir and in 1914 one bird was seen at the same place May 11.

SOLITARY SANDPIPER—*Helodromas solitarius solitarius.*

This species is a common migrant here and has the distinction of being the first to reappear in the fall. The few dates I have for the spring migration are fairly uniform for in 1913 the first bird was seen April 26 and last seen May 24, and in 1914 the first bird was recorded April 25 and last seen May 16. My fall migration notes are even more meager for but little of the summer has ever been spent in Pittsburgh and this species is a remarkably early migrant. In 1913 I found a single bird feeding about a small pond on July 28 and my last record that year was one bird seen September 6.

SPOTTED SANDPIPER—*Actitis macularia.*

A common summer resident, breeding about all the more open streams and larger ponds. My records for the first birds seen in the spring are April 27, 1912, April 14, 1913, and April 19, 1914. They soon become plentiful and remain so until late in August when they gradually disappear and are usually gone by the end of the first week in September. In 1912 one bird lingered at the lower reservoir until September 29, by

far the latest I have ever found this species here, my other dates for the last bird seen being September 6, 1913, and September 8, 1916. May 26, 1915, a nest was found with four slightly incubated eggs, well concealed in the tall grass in an open field three hundred yards from a creek. This was undoubtedly a second attempt to rear young for that same day three young birds were seen barely out of the nest.

KILLDEER—*Oxyechus vociferus.*

A common summer resident, frequenting open pastures and fields under cultivation, often far from any water. My migration records are March 23, 1912, March 14, 1914, and November 16, 1912. September 16, 1916, a flock of fully seventy-five birds was seen, feeding at the edge of the Allegheny river. On May 21, 1910, a nest was found with four well incubated eggs, in the middle of an asparagus bed in an open field.

SEMIPALMATED PLOVER—*Ægialitis semipalmata.*

I have but one record for the occurrence of this species here. September 16, 1916, one bird was seen along the Allegheny river, feeding at the edge of the water.

BOB-WHITE—*Colinus virginianus virginianus.*

Resident, but decidedly scarce, and seldom seen or heard. The frequent hard winters probably have something to do with this but the hordes of hunters that invade the country during the fall unquestionably keep the birds from recuperating their diminishing numbers. I have at long intervals flushed single birds but I have yet to see my first covey in Allegheny county.

RUFFED GROUSE—*Bonasa umbellus umbellus.*

This species can be found throughout the year in the larger stretches of woods and at one time was fairly plentiful here, but each year has seen a decided decrease in its numbers and unless rigidly protected for a time it will soon be entirely wiped out.

Pittsburgh is producing too many hunters in proportion to the game available for a species such as this to long survive.

RING-NECKED PHEASANT—*Phasianus torquatus.*

December 20, 1915, one bird was flushed at the edge of a short stretch of woods. It was almost walked on before seen but once it had left the ground it flew quite a distance before coming to the ground again.

MOURNING DOVE—*Zenaidura macroura carolinensis.*

A very common summer resident. My dates for arrival in the spring are March 30, 1912; March 20, 1913, and March 26, 1914. In the fall the last bird was seen October 25, 1912, and October 26, 1913. Data on thirteen nests give April 18, 1912, as the earliest date on which a full set of fresh eggs was found, and June 9, 1912, the latest date. By the latter part of April the majority of the birds are incubating full sets, which invariably consist of two eggs. In situation the nests vary from five to fifteen feet from the ground, and have been found on horizontal limbs of apple trees in orchards, in thick grape vines, on the top of a stump, on a piece of bark that had fallen from a large dead tree

and lodged in another tree, in thick bushes and in crotches of the larger trees at the edge of short stretches of woods.

MARSH HAWK—*Circus hudsonius.*

A scarce and irregular migrant. My records for its occurrence here are single birds seen April 5, 1915, August 14, 1916, and January 27, 1917.

SHARP-SHINNED HAWK—*Accipiter velox.*

A scarce summer resident. June 11, 1916, a nest was found at Harmarville that held five well incubated eggs, twenty feet from the ground in a crotch of a wild cherry tree at the side of a path through a stretch of woods.

COOPER'S HAWK—*Accipiter cooperi.*

Resident throughout the year in small numbers. A nest with three fresh eggs was found April 26, 1919, in Squaw Run, sixty feet from the ground in an upper crotch of a large white oak toward the top of a wooded hillside. It was placed on the top of an old Crow's nest and was well built of sticks and twigs, with a lining of finer twigs and a few pieces of bark. The bird was incubating but on being flushed disappeared silently and was not seen again.

RED-SHOULDERED HAWK—*Buteo lineatus lineatus.*

Of irregular occurrence during the fall and winter, and frequently found nailed to the side of a farmer's barn.

BROAD-WINGED HAWK—*Buteo platypterus.*

A fairly common summer resident, showing a decided preference for well wooded ravines and hillsides. April 30, 1911, a nest was found at Harmarville that held four slightly incubated eggs, forty feet from the ground in a crotch of a large tree near the foot of a wooded hillside. Because of the early date and the unusually large set this record was several times questioned so the eggs were sent to Richard C. Harlow of State College, Pa., for verification and he pronounced them to be undisputably of this species.

SPARROW HAWK—*Falco sparverius sparverius.*

Resident, and fairly common throughout the year. The only nest found was in a large bird box on a private estate, and on May 22, 1915, held five small downy young.

OSPREY—*Pandion haliaetus carolinensis.*

I have but one record for the occurrence of this species here. In 1912 one bird lingered on Deer Creek for over a week, being seen at practically the same spot from the 27th of April through the 4th of May.

SCREECH OWL—*Otus asio asio.*

A common breeding bird, and seen or heard throughout the year in the scattered short stretches of woods and old apple orchards. I never actually found a nest but on May 19, 1912, and again on June 8, 1913, I saw four young birds that were well grown but were seemingly out of the nest but a short time. Each time one of the adult birds was present and showed real concern over my presence..

YELLOW-BILLED CUCKOO—*Coccyzus americanus americanus.*

A common summer resident. My dates for arrival in the spring are

May 17, 1913, and May 17, 1914, and for departure in the fall October 16, 1912, and October 1, 1913. My earliest breeding record is May 30, 1909, three slightly incubated eggs, and my latest August 26, 1910, two fresh eggs. The latter nest is by over two months the latest I have ever known this bird to have fresh eggs for a nest found June 20, 1917, with four incubated eggs is my next latest record. Nests average from four to twenty feet from the ground and are practically always built of coarse twigs, lined with fragments of dead leaves. A nest found June 16, 1916, however, was unusually well built of twigs and coarse grasses, having an outside height of fully two inches. It held on that date two half-grown young.

BELTED KINGFISHER—*Ceryle alcyon alcyon.*

This species is common during the summer months and of irregular occurrence during the winter. My dates for arrival in the spring are March 31, 1912, March 21, 1913, and March 28, 1914. In 1911 the last bird for the year was seen November 11 but other years individual birds lingered throughout the winter so I have no other dates for their departure in the fall. During the winter of 1913 Deer Creek froze almost entirely over, but on December 28 one bird was seen about a short stretch of open water. May 4, 1912, a nest was found with seven slightly incubated eggs in a three foot hole in a low bank at the side of Deer Creek, and on the 22nd of June of the same year another nest was found that held seven well incubated eggs.

HAIRY WOODPECKER—*Dryobates villosus villosus.*

A fairly common resident, showing a preference for the larger stretches of woods during the fall and winter but appearing in the spring in many of the old apple orchards to breed. A nest found April 24, 1914, held three slightly incubated eggs and was fifteen feet from the ground in a dead limb of an apple tree in an orchard.

DOWNY WOODPECKER—*Dryobates pubescens medianus.*

Resident, and common everywhere. A nest found May 14, 1910, held five slightly incubated eggs and was twenty feet from the ground in a limb of a large dead tree standing at the edge of an open field. On December 31, 1914, a bird was seen eating the berries of a large poison ivy vine.

YELLOW-BELLIED SAPSUCKER—*Sphyrapicus varius varius.*

A common migrant. My dates for arrival in the spring are March 31, 1912, March 22, 1913, and March 31, 1914, and for departure May 5, 1912, April 29, 1913, and May 2, 1914. It is usually a week or ten days before the birds really become plentiful but for a few days then they can be seen literally everywhere. In the fall the first bird appeared September 28, 1912 and September 22, 1913, and the last bird was seen October 3, 1912, and October 11, 1913. As in the spring there is a day or so when they are much in evidence but they never linger long on their way south.

RED-HEADED WOODPECKER—*Melanerpes erythrocephalus.*

A fairly common summer resident, and seen invariably about large dead trees standing well out in the open. My dates for arrival in the

spring are May 11, 1912, April 30, 1913, and April 29, 1914, and for departure in the fall September 13, 1912, and September 22, 1913. My two breeding records are June 1, 1911, nest with three slightly incubated eggs, thirty feet from the ground in a limb of a large dead tree at the side of a road and June 12, 1912, nest with three fresh eggs, thirty feet from the ground in a limb of a large dead tree at the edge of a short stretch of woods.

NORTHERN FLICKER—*Colaptes auratus luteus.*

Common during the summer months and of regular occurrence, but scarce during the winter. The following dates when single birds were seen will give a fair idea of just how many do linger through the winter months: 1912, February 10, November 30, December 30; 1913, January 11, January 20, February 2, February 12; 1914, December 31. My dates for the arrival of the first migrants in the spring are March 16, 1912, March 23, 1913, and March 15, 1914. Breeding records: May 15, 1912, six slightly incubated eggs; May 9, 1914, six fresh eggs.

NIGHTHAWK—*Chordeiles virginianus virginianus.*

A common summer resident, and far more plentiful within the city limits of Pittsburgh than in the open country about the city. These birds were not long in finding out that the gravel roofs of the larger buildings were ideal breeding sites and the English Sparrow is now no longer the only bird life found in the congested business districts. My dates for arrival in the spring are remarkably uniform, being May 4, 1912, May 5, 1913, and May 3, 1914. Last records for the fall are September 14, 1912, and September 20, 1913. All my breeding data is of eggs found on gravel roofs of the larger buildings in Pittsburgh; June 10, 1910, two incubated eggs; June 19, 1912, two fresh eggs; June 1, 1914, two fresh eggs; June 2, 1916, two slightly incubated eggs; June 29, 1917, two slightly incubated eggs; July 1, 1920, two well incubated eggs.

CHIMNEY SWIFT—*Chaetura pelagica.*

A common summer resident, breeding to some extent within the city limits of Pittsburgh. For many years now a pair have nested in a chimney of a church within a hundred yeards of my home and I know of several private residences where the birds return year after year. My records for the first birds seen in the spring are April 21, 1912; April 26, 1913, and April 25, 1914, and for departure in the fall September 7, 1912, and September 20, 1913.

RUBY-THROATED HUMMINGBIRD—*Archilochus colubris.*

A fairly common summer resident. My dates for arrival in the spring are May 17, 1913, and May 25, 1914, and for departure in the fall September 9, 1912, September 15, 1913, and September 16, 1916. June 20, 1914, a nest was found at Harmarville with two incubated eggs, twenty feet from the ground at the outer end of a limb of a large beech tree in a ravine in the woods.

KINGBIRD—*Tyrannus tyrannus.*

This is one species that has always puzzled me for while it should breed here I have yet to record it during the summer months. Even my migration data is meagre for my records for arrival in the spring

are May 5, 1912, and May 16, 1914, and for departure in the fall, August 11, 1912, and August 14, 1916. It may possibly breed sparingly but as far as my experience goes it is a decidedly scarce bird at all times.

CRESTED FLYCATCHER—*Myiarchus crinitus.*

A common summer resident, in the larger stretches of woods and more rarely about old apple orchards. My dates for arrival in the spring are April 29, 1912, April 26, 1913, and April 26, 1914, and for departure in the fall August 16, 1912, and September 8, 1913.

PHŒBE—*Sayornis phœbe.*

A very common summer resident and found wherever there is a suitable place for them to nest. Their arrival during the latter part of March is governed to a large extent by the weather and a backward spring causes them to appear much later than usual. My dates for the first bird seen in the spring are March 30, 1912, March 20, 1913, and March 15, 1914. In the fall I recorded the last bird October 21, 1912, and October 26, 1913. They nest indiscriminately under bridges, on ledges of cliffs and on beams in sheds and old buildings, and almost invariably the nests are made of green moss, a few grasses and considerable mud, lined with fine grasses and gray plant fibres. My earliest record for a full set of eggs is April 24, 1916, a nest being found that day with five fresh eggs and one of the Cowbird, and my latest, June 26, 1915, a nest with five well incubated eggs. Intermediate dates are April 26, 1913, five fresh eggs; May 16, 1914, five slightly incubated eggs; May 27, 1911, five incubated eggs, and June 7, 1915, five slightly incubated eggs.

WOOD PEWEE—*Myiochanes virens.*

A common summer resident in all the scattered stretches of woods. My dates for arrival in the spring are May 13, 1912, May 16, 1913, and May 16, 1914, and for departure in the fall September 13, 1912. A nest found June 17, 1912, held three slightly incubated eggs and was thirty feet from the ground in a horizontal crotch at the outer end of a limb of a large beech tree on an open hillside. Another nest found August 14, 1916, held small young and was twenty feet from the ground at the outer end of a large sugar maple at the side of a road.

ACADIAN FLYCATCHER—*Empidonax virescens.*

A common summer resident, but found only in wooded ravines where there is running water. My dates for arrivals in the spring are April 26, 1913, and May 4, 1914, and for departure in the fall September 20, 1912, and October 3, 1913. In nesting a decided preference is shown for a beech (*Fagus americana*), for of six nests found in 1916 and 1917 four were in beeches, one in a hemlock and one in a sugar maple. The nests are always half suspended from a fork at the extreme outer end of a lower limb, usually from ten to fifteen feet from the ground, and are shabby and often frailly built of fine twigs, weed stems, vine tendrils and coarse grasses, lined with fine grasses and at times gray plant fibres. As far as my experience goes three eggs are invariably laid, and full sets of fresh eggs can be found after the first week in June, June 11, 1916, being my earliest date and June 22, 1917, my latest.

LEAST FLYCATCHER—*Empidonax minimus.*

An irregular and scarce summer resident, haunting underbrush bordering roadsides. My dates for arrival in the spring are May 3, 1913, and May 2, 1914. There are but a few spots where I have found this species during the summer months and as the birds disappear early in the fall I have no actual dates for their departure.

PRAIRIE HORNED LARK—*Otocoris alpestris praticola.*

This species is common here throughout the year, roving about in small flocks during the winter and scattering out in pairs during early March to breed. In nesting they show a preference for open exposed hillsides and are never found where the grass is long or has not been cut or grazed off over the winter. A nest found April 18, 1913, held four well incubated eggs and was sunk flush with the ground in the middle of a golf course in Schenley Park.

BLUE JAY—*Cyanocitta cristata cristata.*

The exact status of this species here has always puzzled me, but from the little data I have I would consider it a common fall migrant and a very rare breeder. I have yet to see it during the spring or winter and the only evidence I have that it possibly breeds is the fact that I saw a flock of five birds at Harmarville July 19, 1914. It is quite common for a month during the fall, my records for its arrival being September 14, 1912, and September 20, 1913, and for its departure October 16, 1912, and October 11, 1913.

CROW—*Corvus brachyrhynchos brachyrhynchos.*

Resident, and common throughout the year. I know of one large roost on a hillside of second growth white pine and hemlock possibly ten miles from Harmarville that is used each winter but I have never had the opportunity to visit it and ascertain just how many birds do use it. Breeding data: April 24, 1911, five slightly incubated eggs; April 25, 1914, four fresh eggs. Nests average twenty-five to forty feet from the ground and are placed in crotches of the larger trees in short stretches of woods.

BOBOLINK—*Dolichonyx oryzivorus.*

A fairly common summer resident. My dates for arrival in the spring are May 17, 1913, and May 2, 1914. On May 26, 1915, two nests were found, one with six slightly incubated eggs and the other with five fresh eggs, both well concealed in thick clumps of grass in the middle of adjoining fields.

COWBIRD—*Molothrus ater ater.*

A very common summer resident, and one that probably does more toward retarding an increase in the smaller breeding birds than any other cause. I have often felt that this bird does more harm than all the other natural enemies of bird life put together for its eggs have been found in the nests of practically all the birds that it is possible for it to impose upon. The following data will give some idea of just what effect it does have on bird life:

May 21, 1910, Yellow Warbler, 3 eggs, plus one of the Cowbird.

June 10, 1911, one fresh egg in an empty Kentucky Warbler's nest.

May 18, 1912, Yellow Warbler, 3 eggs, plus one of the Cowbird.
May 25, " Yellow Warbler, 1 broken egg, plus one of the Cowbird.
June 9, " Red-eyed Vireo, 2 eggs, plus two of the Cowbird.
3 eggs, plus one of the Cowbird
May 18, 1913, Redstart, 3 eggs, plus two of the Cowbird.
May 30, " Scarlet Tanager, 3 eggs, plus one of the Cowbird.
June 8, " Maryland Yellow-throat, 4 eggs, plus one of the Cowbird.
May 10, 1914, Blue-gray Gnatcatcher, 3 eggs, plus one of the Cowbird.
May 17, " Louisiana Water-Thrush, 2 eggs, plus two of the Cowbird.
May 21, " English Sparrow, 5 eggs, plus one of the Cowbird.
May 21, 1915, Redstart, 4 eggs, plus one of the Cowbird.
June 6, " Red-eyed Vireo, 4 eggs, plus one of the Cowbird.
April 24, 1916, Phoebe, 5 eggs, plus one of the Cowbird.

I have also found its eggs in a Wood Thrush's nest and several Song Sparrows,' and on June 25, 1915, I saw a Chipping Sparrow feeding a young bird fully grown and well able to care for itself. By far the most interesting record was that of the egg in the English Sparrow's nest, for this nest was in a small bird box the opening to which seemed altogether too small for even the female Cowbird to enter. As has always been my custom I threw out this egg and I have since regretted doing so for it would have been interesting to see if the young Cowbird could have crowded out the young English Sparrows that are probably pugilistically inclined from the day they are born. My dates for arrival in the spring are April 8, 1912, March 25, 1913, and March 28, 1914. I have but one record for departure in the fall, one bird being seen October 3, 1912, feeding on one of the city streets with a flock of English Sparrows.

RED-WINGED BLACKBIRD—*Agelaius phœniceus phœniceus.*

A common summer resident about swamps and open marshy fields. My earliest record for arrival in the spring is March 1, 1913, and my latest for the fall November 16, 1912. In nesting a cat-tail swamp is generally selected and here the nests may be built in clumps of cat-tails within a few inches of the water or four or five feet from the ground in alders that frequently border the open water. I have at times, however, found these birds nesting in dry open fields, placing the nests in thick clumps of weeds practically on the ground. Four eggs is generally a complete set, my data on seventeen nests giving twelve nests with four eggs each, one with five and four with three. May 23 is the average date on which the majority of the birds can be found with full sets of fresh eggs, May 16, 1914, being my earliest date and June 26, 1912, my latest.

MEADOWLARK—*Sturnella magna magna.*

A common summer resident wherever there are open fields or pastures. I have but one record for the occurrence of this species here during the winter, two birds flushed at the edge of a field January 22, 1913. My dates for arrival in the spring are March 18, 1912, March 12, 1913, and March 17, 1914, and for departure in the fall November 4, 1912, and November 1, 1913. Breeding data: June 16, 1911, six incubated

eggs; May 14, 1914, four fresh eggs; both nests arched over and well concealed in deep grass.

BALTIMORE ORIOLE—*Icterus galbula.*

A common resident, many nesting in the larger trees in the residential section of Pittsburgh. My dates for arrival in the spring are May 2, 1912, April 28, 1913, and April 27, 1914, and for departure in the fall August 21, 1912, and August 20, 1913. A nest found May 28, 1910, held five slightly incubated eggs and was ten feet from the ground at the outer end of a limb of an elm overhanging a road.

RUSTY BLACKBIRD—*Euphagus carolinus.*

I have found this species a regular but scarce migrant, although it may be commoner than my personal experience would indicate. In 1912 I recorded it but once, three birds being seen April 30. In 1913 it was seen twice during the spring migration, a flock of ten birds March 29, and one bird April 9, and during the fall migration it was again recorded but twice, a single bird October 4 and November 23. In 1914, in the spring migration, two birds were seen April 4, and one bird April 7, and in the fall one bird was seen November 26.

BRONZED GRACKLE—*Quiscalus quiscula aeneus.*

A common summer resident, breeding in small colonies in many places within the city limits of Pittsburgh. That this species is becoming thoroughly civilized is easily seen from the fact that many nest each year in crevices in the spire of one of the larger churches in the middle of the city. My data for arrival in the spring are March 17, 1912, March 9, 1913, and March 16, 1914 and for departure in the fall, November 3, 1912, and October 31, 1913. In nesting the birds show considerable variation in selecting a suitable site for I have found nests on cross-beams of telephone poles, in cavities in old dead trees, in crotches of large dead trees with no attempt at concealment, and again well concealed at the tops of living trees from ten to forty feet from the ground. But one brood is raised a year, and by the first of May the majority of the birds are incubating full sets. My earliest date is April 26, 1912, five fresh eggs, and my latest May 9, 1912, five slightly incubated eggs. By the middle of June the birds have already gathered into small flocks and have begun foraging over the surrounding country.

PURPLE FINCH—*Carpodacus purpureus purpureus.*

A regular but rather scarce winter resident. Small flocks are seen at frequent intervals during the fall, winter and early spring, but there is no time when they can be definitely looked for. Some of my dates for the occurrence of this species here are February 22, 1912, a flock of ten birds, October 17, 1912, three birds, April 30, 1913, a flock of ten birds, October 18, 1913, one adult male, November 1, 1913, three birds, January 2, 1913, a flock of eight birds, three of them adult males.

REDPOLL—*Acanthis linaria linaria.*

I have but one record for the occurrence of this species here. During the winter of 1916-17 these birds were unusually plentiful in various parts of the state, and on November 30, 1916, I saw a flock of twelve flying noisily by overhead.

GOLDFINCH—*Astragalinus tristis tristis.*

Resident, and common throughout the year. During the winter they are always much in evidence for they rove the country in flocks of seventy-five to frequently one hundred or more birds, and they feed largely then in the tops of the larger sycamores. The majority of the birds are incubating full sets by the first week in August, but there are a few pairs that are always belated, so it is not uncommon to find fresh eggs as late as the first of September.

PINE SISKIN—*Spinus pinus.*

This species is of uncommon occurrence during the winter, small flocks being seen at infrequent intervals feeding usually on the seeds of weeds sticking above the snow. An unusually late record is May 9, 1914, a flock of ten birds being seen at the edge of an orchard.

SNOW BUNTING—*Plectrophenax nivalis nivalis.*

I have but one record for the occurrence of this species here. On December 28, 1915, one bird was seen feeding with a flock of twenty Prairie Horned Larks in the middle of a large field on the seeds of weeds sticking above the inch or so of snow on the ground.

ENGLISH SPARROW—*Passer domesticus.*

Abundant throughout the city of Pittsburgh, in all the smaller towns and about all the farms. An unusually interesting breeding record is an incomplete set of two fresh eggs taken January 8, 1912, in a cavity in a corner of the porch of an unoccupied house. The female was caught on the nest, but that she sat so tight was not surprising considering the fact that the temperature that day was eight degrees above zero, with four inches of snow on the ground. April 20 is the average date on which full sets of fresh eggs can be found. My latest breeding record is a nest found July 20 with four incubated eggs.

VESPER SPARROW—*Pooecetes gramineus gramineus.*

A fairly common summer resident about open fields and pastures. My dates for arrival in the spring are March 29, 1913, and March 28, 1914, and for departure in the fall, November 21, 1912, and November 1, 1913. The latter date is the usual time when these birds disappear, the former record being unusually late for the occurrence of one of this species here.

GRASSHOPPER SPARROW—*Ammodramus savannarum australis.*

A fairly common summer resident, and one easily overlooked, their short inconspicuous song being the only evidence of their occurrence in the scattered open fields.

WHITE-CROWNED SPARROW—*Zonotrichia leucophrys leucophrys.*

A scarce migrant, and seen only during the spring migration. It may possibly be present in the fall, but if so the birds are so few and far between that to date I have entirely overlooked them. My records for the occurrence of this species here are: 1913, May 13, two birds, May 18, one bird; 1914, May 12, one bird, May 14 three birds; 1919, May 22, one bird.

WHITE-THROATED SPARROW—*Zonotrichia albicollis.*

A common migrant, and found singly or in small flocks, feeding in

thickets and underbrush bordering short stretches of woods or open fields. My dates for arrival in the spring are April 14, 1912, March 21, 1913, April 18, 1914, and April 25, 1919, and for departure, May 7, 1912, May 8, 1913, and May 14, 1914. In the fall the first birds appeared September 29, 1912, and September 11, 1913, and the last bird was seen November 16, 1912, and November 2, 1913. I have but two records for the occurrence of this species here during the winter, one bird being seen December 14, 1913, near Squaw Run, and two birds being found in a thicket near the same spot January 4, 1915.

TREE SPARROW—*Spizella monticola monticola.*

A common winter resident, varying little in abundance during the hardest or the mildest winters, and seemingly unaffected by the deepest snows and lowest temperatures. My dates for arrival in the fall are November 1, 1912, and November 1, 1913, and for departure in the spring April 15, 1912, April 14, 1913, and April 11, 1914.

CHIPPING SPARROW—*Spizella passerina passerina.*

A common summer resident, showing a preference for old apple orchards and shrubbery about houses. My dates for arrival in the spring are March 31, 1912, April 1, 1913, and April 16, 1914, and for departure in the fall October 15, 1912, and October 30, 1913. My earliest breeding record is May 16, 1911, four fresh eggs, nest ten feet from the ground in a crotch of one of the limbs of an apple tree in an orchard, and my latest a nest found June 19, 1915, with three incubated eggs, twenty feet from the ground in a large black locust at the side of a road. A decidedly unusual nesting site was that of a nest found May 21, 1915, with three incubated eggs, it being four feet from the ground, well concealed in a mass of dead leaves, weed stems and such debris that had lodged during high water in a crotch of a large bush at the side of a creek.

FIELD SPARROW—*Spizella pusilla pusilla.*

A common summer resident in fields overgrown with scrubby underbrush and about thickets and underbrush bordering roads and open fields. My dates for arrival in the spring are March 31, 1912, March 20, 1913, and March 21, 1914, and for departure in the fall October 30, 1912, and October 31, 1913. My earliest breeding record is a nest found May 18, 1913, with four fresh eggs, almost flush with the ground in the middle of a thick clump of weeds at the edge of an orchard, and my latest a nest found July 19, 1914, with four slightly incubated eggs, two feet from the ground in a small haw at the edge of a field. Full sets of fresh eggs, however, usually four, but at times three, and rarely two, may be found at almost any time between these two dates. With rare exceptions the nests are placed in one of three situations, three feet up in blackberry bushes in small thickets, within one or two feet of the ground in small bushy haws in or at the edge of fields, or resting on the ground in thick clumps of weeds.

SLATE-COLORED JUNCO—*Junco hyemalis hyemalis.*

A common winter resident, and seen almost invariably in small flocks feeding about thickets or underbrush bordering open fields. In the spring migration the last birds were seen May 3, 1912, April 26, 1913, and May 2, 1914, and in the fall the first birds appeared October 3, 1912, and Sep-

tember 11, 1913. The last date is the earliest I have ever recorded this species here, the latter part of September being the usual time that these birds arrive.

SONG SPARROW—*Melospiza melodia melodia.*

Resident, and common throughout the year. Unlike most species it does not gather into flocks during the winter but can be found singly or two or three birds together in thickets or underbrush bordering short stretches of woods and open fields. Data on thirty-four nests gives April 30, 1912, as the earliest date on which a full set of fresh eggs was found, and August 6, 1915, as the latest date. As a general rule the first nests are found on the ground, while the later ones are almost invariably in bushes or small saplings, varying in height in proportion to the density of the foliage. It is probably just a coincidence, but the nest found August 6, 1915, was also higher from the ground than any I have ever found before or since, being twenty feet up in a red maple at the side of the road. There is seemingly no definite requirement as to a nesting site, for the birds nest indiscriminately between the two dates mentioned above and place their nests anywhere that there is suitable protection. One situation especially favored is in the thick barberry bushes that border the paths in all the city parks. The nests are built of weed stems and grasses, well lined with horse hair, and when off the ground are often quite bulky. Four eggs constitute a full set as often as five, rarely three, and just once have I found a set of six.

FOX SPARROW—*Passerella iliaca iliaca.*

A common migrant, appearing singly or in small flocks, and often singing during the spring migration. My dates for arrival in the spring are March 18, 1912, March 20, 1913 and March 16, 1914, and for departure April 13, 1912, April 18, 1913 and April 15, 1914. In the fall the first birds appeared October 16, 1912 and October 1, 1913, and were last seen November 16, 1912 and November 23, 1913. Usually this species is wary and hard to approach and as it likes dense underbrush it would often be overlooked were it not for the disturbance it makes as it scratches vigorously in the dead leaves.

TOWHEE—*Pipilo erythrophthalmus erythrophthalmus.*

A common summer resident in thickets and underbrush bordering upon fields and the edges of woods. My dates for arrival in the spring are March 31, 1912, March 20, 1913, March 28, 1914 and April 3, 1915. In 1913 the last bird for the year was seen October 31, and this is the average date for the departure of this species. It winters rarely for I have but two records for the occurence of this species during the winter months. One bird was seen November 28, 1912 and again February 18, 1913 in a tangled thicket of grape vines in a wooded ravine, and two years later two birds wintered at this same spot, being seen November 26 and December 24 and 28, 1914, and January 4, 1915. My earliest breeding record is a nest found May 25, 1913 with three slightly incubated eggs, on the ground in an old apple orchard well concealed in the short grass, my latest a nest found June 22, 1912 with four incubated

eggs, two feet from the ground in a grape vine covering an old stump at the edge of a short stretch of woods.

CARDINAL—*Cardinalis cardinalis cardinalis.*

Resident and common throughout the year, usually occurring during the winter months in small flocks of five to a dozen birds. My earliest breeding record is a nest found April 16, 1910 with three fresh eggs, my latest a nest found July 9, 1915 with three slightly incubated eggs. Almost invariably the nests are found in thick grape vines, varying in height from five to fifteen feet from the ground, and with very few exceptions three eggs is a complete set. Rarely a bird will lay but two eggs and just once have I found four. A nest found May 5, 1912 with two newly hatched young and an infertile egg differed from any others I have ever seen by being built in a thick brush pile at the edge of an open field. In construction the nests vary little, being somewhat bulky and composed of weed stems, dead leaves, occasional bits of paper and strips of grape vine bark, lined with fine weed stems or rootlets.

ROSE-BREASTED GROSBEAK—*Zamelodia ludoviciana.*

A common summer resident, being found in all the scattered stretches of woods. My dates for arrival in the spring are May 4, 1912, May 3, 1913 and April 28, 1914, and for departure in the fall Sept. 24, 1912 and Oct. 4, 1913. Usually they are plentiful within a few days after the first bird appears. A nest found May 18, 1912, with four fresh eggs, is my earliest breeding record, my latest a nest found June 22, 1915, with but two well incubated eggs. Underbrush bordering roads or at the edge of a short stretch of woods is generally selected as a suitable nesting site and here the nests may be found in bushes or saplings varying from five to fifteen feet from the ground. A full set may consist of three, four or five eggs, for of ten nests found four hold four eggs each, four three eggs and two five eggs each.

INDIGO BUNTING—*Passerina cyanea.*

A common summer resident in underbrush at the edge of stretches of woods. My dates for arrival in the spring are April 28, 1912, May 4, 1913, and May 10, 1914. The first week in June is the usual time for full sets of fresh eggs, although I did find one early nest on May 24, 1913, that held four slightly incubated eggs. My latest breeding record is a nest found June 16, 1916, with four fresh eggs. Almost invariably the nests are in small bushes within four or five feet of the ground, although I did come across one that was but a foot from the ground in a clump of tall weeds.

SCARLET TANAGER—*Pyranga erythromelas.*

A common summer resident in the larger stretches of woods. My dates for arrival in the spring are May 4, 1913, and May 9, 1914, and for departure in the fall, October 4, 1913. A nest found May 30, 1913, held three incubated eggs and one of the Cowbird, and was fifteen feet from the ground in a horizontal crotch of one of the lower limbs of a large tree at the edge of a stretch of woods. Another found June 20, 1917, held four well incubated eggs and was fifteen feet from the ground

on top of a small blue beech at the side of a small stream in the woods.

PURPLE MARTIN—*Progne subis subis.*

A scarce and irregular migrant, and seldom seen during either the spring or fall migration. I have but one record for 1912, two birds being seen August 17, and but two records for 1914, two birds being seen April 19 and a flock of twenty birds September 1. Attempts have been made to attract this species by putting up large bird houses, but with as yet no success whatsoever.

CLIFF SWALLOW—*Petrochelidon lunifrons lunifrons.*

I have but one record for the occurrence of this species here. On May 13, 1914, a flock of fully two hundred and fifty of these birds was seen on a telephone wire at the side of a road.

BARN SWALLOW—*Hirundo erythrogastra.*

This species is probably a fairly common summer resident here, although I know of but two barns at Harmarville in which it nests. My dates for arrival in the spring are April 26 1913, and April 19, 1914, and for departure in the fall September 2, 1913. My earliest breeding record is a nest found June 19, 1915, with five incubated eggs, and my latest a nest found July 20, 1912, with five fresh eggs.

ROUGH-WINGED SWALLOW—*Stelgidopteryx serripennis.*

A common summer resident, nesting in the banks along the Allegheny River and even more commonly along Deer Creek. I have never known these birds to colonize, however, but a single pair being found in one spot. My dates for arrival in the spring are April 27, 1912, April 19, 1913, and April 18, 1914. The birds disappear almost as soon as the young are able to fly so I have no actual records for their departure in the fall. My earliest breeding record is a nest found May 22, 1915, with seven fresh eggs, my latest a nest found June 10, 1910, with five well incubated eggs.

CEDAR WAXWING—*Bombycilla cedrorum.*

This species is a common migrant here and possibly breeds sparingly, although I have no actual records of its ever having done so. I have never seen it during the winter and it usually arrives very late in the spring, my dates for its arrival being May 17, 1913, May 23, 1914, and, an unusually early date, April 3, 1915. In the fall the last birds were seen November 10, 1912, November 2, 1913, and November 26, 1915, the last being unusually late for the occurrence of this species here.

MIGRANT SHRIKE—*Lanius ludovicianus migrans.*

A very scarce migrant. I have but one record for its occurrence here, one bird being seen April 10, 1917, in the top of a small tree at the side of a road.

RED-EYED VIREO—*Vircosylva olivacea.*

A common summer resident in the scattered short stretches of woods. My dates for arrival in the spring are May 4, 1912 and May 2, 1914, and for departure in the fall October 3, 1913. Breeding data: June 9, 1912, three incubated eggs and one of the Cowbird; June 6, 1914, four incu-

bated eggs; June 6, 1915, four slightly incubated eggs and one of the Cowbird; June 20, 1917, three well incubated eggs. The nests average from four to eight feet from the ground and are almost invariably in saplings and not in the lower branches of the larger trees.

WARBLING VIREO—*Vircosylva gilva gilva.*

A common summer resident, with a decided perference for the larger willows found at the edges of the larger ponds and streams. My dates for arrival in the spring are April 24, 1913, and May 3, 1914. In early summer the birds stop singing and few are seen then before all have disappeared for the year.

YELLOW-THROATED VIREO—*Lanivireo flavifrons.*

A fairly common summer resident. They spend their time almost entirely in the upper branches of the larger trees at the edges of the woods, and they likewise nest well up from the ground, where their nests are hard to find and even harder to get at. One bird that I trailed for several hours was building in the very top of a large white oak at the side of a road and my limited experience would indicate that this is a situation often chosen for the nest. My dates for arrival in the spring are May 7, 1913, and May 2, 1914, and for departure in the fall September 4, 1912, and September 7, 1913.

BLUE-HEADED VIREO—*Lanivirco solitarius solitarius.*

This species is probably a regular and more or less common migrant here, although my records for its occurrence are rather meager. During the fall migration of 1913 birds were seen at infrequent intervals from the 4th through the 26th of October, and in the spring of 1914 one bird was seen on the 25th and 26th of April.

BLACK-AND-WHITE WARBLER—*Mniotilta varia.*

A common summer resident in ravines and on wooded hillsides. My dates for arrival in the spring are April 20, 1912, April 26, 1913, April 24, 1914, and April 21, 1916 and for departure in the fall September 17, 1912. I have seen young birds but recently out of the nest being fed by the old birds, but have never succeeded in finding a nest with eggs or young.

WORM-EATING WARBLER—*Helmitheros vermivorus.*

A common summer resident, but found nowhere but on wooded hillsides. My dates for arrival in the spring are May 3, 1913 and May 2, 1914, and for departure in the fall August 10, 1912, August 15, 1913, and, an unusually late date, September 5, 1914. A nest found June 3, 1911, held five newly hatched young and was in a depression in the ground at the foot of a small bush on a steep wooded hillside.

BLUE-WINGED WARBLER—*Vermivora pinus.*

I have but one record for the occurrence of this species here, two birds being seen May 9, 1914, feeding in underbrush at the edge of a short stretch of woods.

GOLDEN-WINGED WARBLER—*Vermivora chrysoptera.*

A common summer resident about old clearings or fields overgrown with shrubbery underbrush. They seem to prefer the vicinity of woods and the deeper in the woods a clearing may be the more probable it will

be that a pair of these birds will be found breeding there. My dates for arrival in the spring are May 5, 1912, May 3, 1913, and May 2, 1914, and for departure in the fall August 7, 1912, and August 13, 1913. A nest found May 25, 1913, at Harmarville held five fresh eggs and was well concealed in the deep grass near one end of an old deserted apple orchard.

NASHVILLE WARBLER—*Vermivora rubricapilla rubricapilla.*

This species is a fairly common migrant here but is one that is easily overlooked. This is specially true in the fall when its dull plumage is so much like that of many others of this family then much in evidence. April 26, 1914, is my earliest record for the spring migration and May 16 of the same year my latest. For the fall migration I have but two records, single birds being seen September 4, 1914, and September 16, 1916.

TENNESSEE WARBLER—*Vermivora peregrina.*

This species is probably a fairly common migrant here, although my records indicate that I pretty well overlooked it. My two records are both for the spring migration of 1914, two birds being seen May 12 and one bird May 13.

NORTHERN PARULA WARBLER—*Compsothlypis americana usneae.*

This species is fairly common during the spring migrations, but I have but one record for the fall. April 26, 1914, is the earliest I have ever seen it in the spring, and May 23, 1915, is the latest. My one fall record is a single bird seen October 4, 1913.

CAPE MAY WARBLER—*Dendroica tigrina.*

A regular but scarce migrant. My records for the spring migration are single birds seen May 13, 1913, and May 10 and May 14, 1914. My one record for the fall migration is a bird seen September 16, 1916.

YELLOW WARBLER—*Dendroica aestiva aestiva.*

A common summer resident in underbrush at the side of roads and bordering open fields. My dates for arrival in the spring are April 21, 1912, April 23, 1913, April 23, 1914, and April 21, 1916, and for departure in the fall August 10, 1912, and August 7, 1913. Nesting is started at almost the same time by practically all the birds, with the result that there is very little variation in the date when full sets of fresh eggs may be found. A nest found May 18, 1912, with five fresh eggs, is my earliest breeding record, my latest a nest found May 26, 1915, with five slightly incubated eggs. May 21 is the average date when the majority of the birds are incubating full sets. The nests vary from five to twenty feet from the ground and may be placed in elderberry bushes in thickets or in saplings or larger trees at the side of a road or at the edge of a field. One unusual situation was a nest built on the top of an old Goldfinch's nest, where it was remarkably well concealed. The nests are almost invariably compactly built of gray plant fibres and grasses, lined with plant down and horse hair.

(TO BE CONCLUDED IN OUR NEXT ISSUE)

A NEW DOVE FROM FLORIDA

Zenaidura macroura peninsulari

(Florida Mourning Dove)

BY H. H. BAILEY

The type skin, No. 911 Bailey Collection Natural History, H. H. B. Collector, Miami Beach, Florida, February 3, 1923, can be easily distinguished from Zenaidura m. carolinensis in being smaller in all measurements, with upper tail coverts, secondaries, and entire length of back rusty, and belly and under tail coverts light buff, chest cinnamon, with little or no metallic on sides of neck. Female lacks the metallic gloss on neck, with chest olive instead of cinnamon as with male; feet and legs red.

As with the little sparrow hawk (*Falco s. paulus*), this dove can be distinguished in the field from the northern form by its size. Resident on the Peninsula of Florida the year round; no doubt intergrading with the large form through North Florida and Georgia.

Zenaidura macroura carolinensis

MEASUREMENTS IN INCHES AND TENTHS OF INCHES

Sex	Date	Locality	U. S. N. M. No.	Total Length	Wing	Tail	Culmen
Adult Male	April 12, 1888	Washington, D. C.	121450	11.1	6.	6.1	.53
Male	May 3, 1889	Laurel, Md.	176371	12.7	5.95	6.2	.65
Male	April 17, 1894	Patuxent River, Md.	220575	12 8	6.2	6.5	.6
Male	April 5, 1910	Washington, D. C.	212657	12.4	6.	6.	.6

Zenaidura macroura peninsulari

FLORIDA SPECIMENS

Male	Feb. 3, 1923	Miami Beach, Fla.	B. C. 911	10.	5.4	5.	.6
Female	Feb. 1, 1923	"	B. C. 903	9.5	5.5	4.9	.6
Male	Feb. 1, 1923	"	B. C. 902	11.	5.8	5 6	.6
Female	Feb- 3, 1923	"	B. C. 910	10.2	5.7	5.5	.6

THE WILSON BULLETIN

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EDITORIAL

Members should notice the announcement of our secretary that the next Annual Meeting will be held in Cincinnati in connection with the meeting of the American Association for the Advancement of Science, during the week in which the first of the year occurs. We ought, even at this early date, to be making our plans to attend this meeting. We may expect many of our members who live so far south that they have not felt able to attend the meetings that have been held in Chicago to attend this meeting, and we want to meet them.

According to his usual custom, the editor will be on the road with a party of students during the summer beginning on June 21st and will in all probability not be back in Oberlin until the middle of September. But letters may be addressed to 143 West College Street, Oberlin, O., and those that are urgent will receive attention. Generally speaking, it will be better to await his return home. But articles and notes inended for publication in the pages of the Wilson Bulletin may be sent in at any time.

We are pleased to note the vigorous prosecution of the bird-banding work, under the able direction of Mr. Baldwin and Mr. Lyon. So much of banding is certain to result in the collection of data that will be of invaluable aid in the further understanding of bird movements, at least, and almost as certainly in the advancement of our knowledge of their breeding and other habits.

MINUTES OF THE TWENTY-FOURTH ANNUAL MEETING OF THE NEBRASKA ORNITHOLOGISTS' UNION

One of the most successful and enjoyable meetings ever held by the Nebraska Ornithologists' Union took place at Fairbury, Nebraska, on Friday and Saturday, May 11 and 12, 1923. The sessions included a dinner Friday evening, followed by a public program and a business meeting, and a field day on Saturday. The meeting was the twenty-fourth annual meeting of the organization, and the members of the N. O. U., with their escorts and friends, were guests of the Bird Study Department of Fairbury Women's Club at this meeting.

The members and their friends assembled at the Mary-Etta hotel for dinner at 6:30 p. m., immediately after which they joined the local bird enthusiasts at the First Baptist Church, where the public program was held. About seventy persons were present. Mrs. H. F. Hole of Fairbury, called the meeting to order at 8:15 p. m., and on behalf of the Bird Study Department of the Fairbury Women's Club extended a cordial welcome to the visiting members of the N. O. U., which was responded to by Mrs. Addison E. Sheldon, President of the N. O. U. Mrs. Sheldon called upon the Secretary to explain the aims, history and achievements of the N. O. U. briefly, and to take the chair during the Presidential Address. This was on the subject, "American Poets as Ornithologists," and was much enjoyed by the audience.

Following the Presidential Address a symposium on the sparrow family (*Fringillidae*), as represented in Nebraska, was held. This symposium was conducted similarly to the symposium on the shore birds given at the 1922 meeting of the N. O. U. and the same persons participated. Prof. M. H. Swenk exhibited specimens of all of the "streaky" members of the family pointing out the best characters by which they could be identified in the field and outlining a key for field use, employing plumage, song and habitat characters. Prof. R. W. Dawson presented a chart illustrating graphically the migration of twenty species of the commoner Nebraska *Fringillidae*, chiefly the streaky sparrows, based on data compiled from over 500 field trips at Lincoln. Dr. R. H. Wolcott took up the nesting habits of the *Fringillidae* known to breed in Nebraska, illustrating his remarks with specimens of eggs of the several species discussed. The symposium concluded with a general discussion of the subject. The plans for the field day were then announced and discussed, after which a short recess was taken to enable those present who were not members of the N. O. U. to retire if they desired before the organization went into business session.

The President called the business session to order at 10:30 p. m. On motion, the reading of the minutes of the previous meeting was dispensed with, as they have been published in full in the June, 1922, number of the Wilson Bulletin. The President reported briefly for her office, following which the report of the Secretary-Treasurer was presented. The President then appointed an auditing committee, consisting of Dr. R. H. Wolcott and Miss Mary St. Martin, to examine and report upon the financial statement of the Secretary-Treasurer, and a nominating committee,

consisting of Mrs. L. R. Button, Prof. R. W. Dawson, and Mrs. H. C. Johnston.

Election of new members being next in order the Secretary-Treasurer reported that nine names had been presented by members of the N. O. U. for action at this meeting, as follows: Prof. C. O. Carlson of Crete, Mrs. George L. Day of Superior, Mrs. Charles Groves of Superior, Mrs. E. A. Holbrook of Lincoln, Mrs. George W. Trine of Red Cloud, Mrs. George O. Smith of Lincoln, Mr. Anton Stipek of Wilber, Mrs. T. H. Wake of Seward, and Mr. Leighton O. Williams of Lincoln. After discussion, on motion all were elected to membership in the society.

Two amendments to the Constitution of the N. O. U. next came up for consideration and action, the required one month's notice to all members having been given by the Secretary. They were as follows:

Article II, Section 2. "Honorary members shall be elected for their eminence in ornithology or for distinguished services in furthering the aims for which this Union is established."

Replace by "Honorary members may be elected for their eminence in ornithology or from among the members of the Union, past or present, for distinguished services in having furthered the aims for which this Union is established. Election shall be by the approval of three-fourths of the members voting on names submitted by the Executive Committee through a special mail ballot to be sent by the Secretary to all members of the Union in good standing."

Article VIII, Section 1. "The annual dues of the members shall be two dollars ($2), due in advance at the time of election to membership and on the date of each annual meeting thereafter. These dues shall also entitle the members to active membership in the Wilson Ornithological Club."

Omit the word "active" before membership in the second sentence.

The Secretary explained the objects of these amendments, which were, briefly, to make possible the recognition of some of our older Nebraska ornithologists at the quarter century annual meeting of the N. O. U. in 1924, as well as to provide a definite manner of electing to the class of membership, and to make the constitution conform with the revised articles of agreement with the Wilson Club adopted at the 1922 meeting of the N. O. U. After discussion both amendments were unanimously adopted.

Next in order of business was the presentation by the Secretary, and discussion by the members, of a plan to publish the long-proposed "Birds of Nebraska" in parts, issuing one each year until the book, which it is estimated will be of about 800 pages, is complete The plan met with general approval, and, on motion, the Secretary was authorized to proceed along this line, and, if possible, to publish the first part before the quarter centennial meeting of the N. O. U. next year.

The auditing committee then reported that the financial report of the Secretary-Treasurer, with accompanying vouchers, had been examined and found to be correct. On motion the report was accepted. The nominating committee then reported, and it was voted that the Secretary cast the unanimous ballots of the Union for the following officers for 1923:

President—Dr. R. H. Wolcott, Lincoln.
Vice-President—Rev. J. M. Bates, Red Cloud.
Secretary-Treasurer—Prof. M. H. Swenk, Lincoln.

Fifteen members were present at this session of the N. O. U., as follows: Mesdames Lily R. Button, Margaret M. Cory, Blanche Garten, H. F. Hole, H. C. Johnston, G. A. Loveland, L. H. McKillip, Mary St. Martin, Addison E. Sheldon, and Fred W. Tyler, and Messrs, J. M. Bates, R. W. Dawson, M. H. Swenk, R. H. Wolcott, and Leonard Worley.

Adjournment at 11:15 p. m.

On Saturday, May 12, the twenty-first annual field day of the N. O. U. was held. Following an early light breakfast start was made at 6:00 a. m. from the Mary-Etta Hotel. Forty-six persons participated in the field day. Four parties of about ten each were organized under the leadership of Messrs. R. W. Dawson, M. H. Swenk, R. H. Wolcott, and J. T. Zimmer, and local leaders acquainted with the territory, and available cars carried the parties to the following localities: (1) Rose Creek, about four miles south of Fairbury; (2) Kesterson woods, on the Little Blue River, south of Fairbury; (3) Crystal Springs, a splendid place for water birds, just west of town; and (4) the Fairbury Bird Refuge, about three miles north of Fairbury. All of the field parties reassembled at 10:45 a. m. at the Christian Church at Fairbury for a substantial breakfast served by the Fairbury hosts of the Union. A special treat occurred directly after this breakfast when Mr. J. T. Zimmer, a former member of the N. O. U., who has just returned from a fifteen months' ornithological collecting trip in Peru in the interests of the Field Museum of Chicago, gave an intensely interesting talk on the bird life of that region. At noon the parties returned to the field and continued until the middle of the afternoon. Although the morning was unseasonably cold and raw, a composite list of one hundred and fourteen birds, exceeding by nine the record 1922 list, was obtained, as follows:

Bluebird, Robin, Olive-backed Thrush, Gray-cheeked Thrush, Wood-Thrush, Blue-gray Gnatcatcher, Long-tailed Chickadee, Tufted Titmouse, White-breasted Nuthatch, Western House Wren, Brown Thrasher, Catbird, Mockingbird, Redstart, Yellow-breasted Chat, Maryland Yellow-throat, Kentucky Warbler, Louisiana Water-Thrush, Oven-bird, Cerulean Warbler, Myrtle Warbler, Yellow Warbler, Tennessee Warbler, Black and White Warbler, Bell Vireo, Yellow-throated Vireo, Warbling Vireo, Red-eyed Vireo, Migrant Shrike, Cedar Waxwing, Rough-winged Swallow, Tree Swallow, Barn Swallow, Cliff Swallow, Purple Martin, Scarlet Tanager, Dickcissel, Indigo Bunting, Western Blue Grosbeak, Black-headed Grosbeak, Rose-breasted Grosbeak, Cardinal, Arctic Towee, Towhee, Lincoln Sparrow, Song Sparrow, Western Field Sparrow, Claycolored Sparrow, Chipping Sparrow, Gambel Sparrow, White-crowned Sparrow, Harris Sparrow, Lark Sparrow, Western Grasshopper Sparrow, Savanna Sparrow, Goldfinch, Bronzed Grackle, Baltimore Oriole, Orchard Oriole, Western Meadowlark, Meadowlark, Red-winged Blackbird, Yellow-headed Blackbird, Cowbird, Crow, Blue Jay, Prairie Horned Lark, Least Flycatcher, Traill Flycatcher, Phoebe, Crested Flycatcher, Arkansas Kingbird, Kingbird, Chimney Swift, Yellow-shafted Flicker, Red-bellied Woodpecker, Red-headed Woodpecker, Northern Downy Woodpecker, Hairy Woodpecker, Belted Kingfisher, Sparrow Hawk, Pigeon Hawk, Red-tailed Hawk, Cooper Hawk, Sharp-shinned Hawk, Marsh Hawk, Turkey Vulture, Mourn-

ing Dove, Bob-white, Piping Plover, Semipalmated Plover, Killdeer, Spotted Sandpiper, Solitary Sandpiper, Yellow-legs, Greater Yellow-legs, Semipalmated Sandpiper, Least Sandpiper, Baird Sandpiper, White-rumped Sandpiper, Pectoral Sandpiper, Long-billed Dowitcher, Wilson Snipe, Wilson Phalarope, Coot, Sora, Green Heron, Great Blue Heron, Bittern, Shoveller, Blue-winged Teal, Widgeon, Franklin Gull, and Pied-billed Grebe.

The most interesting nest find of the day was that of a pair of Yellow-throated Vireos, just completed. Occupied nests of the Long-tailed Chickadees, Brown Thrasher, Cardinal and Phoebe were also found.

Report of the Treasurer, 1922-23

Receipts

Cash on hand, May 19, 1922	$ 79.04
Annual dues collected	67.50
Sale of publications	246.68
Interest on investment	12.75
	$405.97

Expenditures

Wilson Bulletin (subscriptions)	$ 63.00
Postage and Stationery	54.90
Purchase of $250 Liberty Bonds	247.18
Balance on hand, May 1, 1923	40.89
	$405.97

BIRD BANDING DEPARTMENT

Under the Direction of Wm. I. Lyon, Waukegan, Ill.

AN APPEAL TO BIRD BANDERS

In order to make this section of the Bulletin more interesting it is necessary that the readers send in general reports of the work at their Banding Stations, giving us monthly or quarterly, the totals of each kind of birds banded, repeats, returns, and any special interesting facts. When you discover a successful bait or a new form of trap, be generous enough to send us pictures and descriptions so that we may pass along the good word to the other Banders so they may profit by your success. Do your bit by sending in something to help us make this a real live Bird Banding News Department, send in your general report from January first to August of this year promptly so we may use it in next issue.

We have been writing all over the world trying to find out the best methods and means for catching birds. We have imported some Clap Nets, Half Overs and Bat Nets, which seem to be successfully used in catching birds in Europe. We hope to have them tried out very soon so we may give the readers of this department the benefit of the results.

From all appearances, a small Half Over net with a trip line that can be carried in your pocket and the two stakes that are about the size of a cane, should be a winner for those who have to trap away from home. If we find it successful we will make arrangements with a net firm to have these manufactured so we can distribute them to anyone wishing the same.

Baby chick feed has proved itself the best general bait for Finches and Sparrows. A good addition is a small percentage of hemp, canary and sunflower seed. We like a few cranberries during the season that they are available; if the birds do not eat them they at least add to the color scheme and possibly may be attractive in that way. They look good to us in the trap, so we believe they must tempt the birds. This year we found that cut apples will tempt many kinds of birds that we were unable to trap before, and advise that you try this.

At this time of the year you should consider your fall and winter trapping. We have found that the Finch and Sparrow family stay close to the bushes so that they may dodge through them in case of emergency. If you have no shrubs or bushes, this is the time to plant them, using those that bear fruit to attract birds. We have found a good method to use in the fall of the year was simply to gather brush and stick it into the ground surounding a trap, adding some stalks of sunflower, golden glow, and other seed-producing varieties to tempt the birds. In this way you can build a natural bird cover around your trap station which will last all winter. Do not forget to use up your Christmas tree in this manner. The surroundings are very important to your trapping station and

you should study the locations where you see the most birds feeding, as a matter of future reference for your own trapping station.

We had one winter boarder at the Waukegan station during the past season,—a White-throated Sparrow seemed to feel that the feed in the traps made an easy living and he staid on through December and January and was last trapped about the middle of February. He became so trap-wise it was very hard to adjust the wires on the throat of the trap to catch him, as he knew just exactly the spot to escape.

The Tree Sparrows proved themselves to be good returners, and we again wish to state that we believe there should be a united effort to trap these birds so that we could get a better line on their travels.

A year ago the Bohemian Wax-wings came into our yard and we tried every bait that we could possibly think of. We watched them carefully and everything that we saw them feed upon we used in the trap, but were unsuccessful in catching them.

The past winter season the Cedar Wax-wings came in December, and again we tried everything we could think of to trap them. Finally we discovered that cut apples apparently would tempt them. Then came the successful night, when we found we had six birds in the trap. The next night nineteen were trapped, with twenty-nine for the next evening, and finally fifty-one were banded in one day. At the end of about three weeks we had placed an even two hundred bands on Cedar Wax-wings. We counted the number of wax tips on their wings and found the average to be seven on each side. There were many irregularities to this rule. A few we found had as high as nine on each side. Some of them had one or two extra large ones, with the remainder being quite small. There seemed to be much variation in these wax appendages.

You can imagine our surprise and pleasure at receiving a letter from Mrs. H. C. Miller of Racine, Wis., stating she had trapped the Cedar Wax-wing No. 66322 and inquiring if that could possibly be our bird. We hastened to write that we had placed that band on the bird just twelve days before she trapped it, twenty-five miles further north. Mrs. Miller had also discovered that apples were the attractive bait. We believe if you cut apples you will find this will make a good addition to the bait for most any birds.

In looking up the Wax-wing we found some authorities claim that the red tips sometimes came on the tail, but by careful examination with a glass we were unable to find any trace of red on the tails of any of the two hundred examined.

The Song Sparrow was the first return migrant to be trapped this season and appeared about the middle of February. In fact we had trapped four or five Song Sparrows before we had any other return migrants.

The new tree trap proved successful with Woodpeckers. It was made by tacking a piece of wire netting about six inches wide around the tree, letting it slant gradually upward to where both ends came together at a point, covering this over on the outside, so as to make a trap pocket

similar to the funnel method of Sparrow type trap. With this type of trap we caught

10 Downy Woodpeckers
2 Hairy Woodpeckers
6 Yellow-bellied Sap-suckers
33 Brown Creepers
6 Black and White Creeping Warblers

Our surprise came with the Brown Creepers. We found them quicker than any other bird to spy an opening. The next shock came when we saw them deliberately crawl through our ¾-inch mesh netting. Then the No. 1 band was too large and we had to shorten it in order to make it fit them. The old bands were softer so we took a sharp-pointed scissors and cut out a part but have had to lap the new bands.

We believe this type of trap will be a successful one for anyone to add to their collection. The only objection is that it must be nailed to the tree and cannot be made portable.

Red-headed Woodpeckers came to the traps on the ground for the apple bait. We had a pleasant surprise one morning at finding five male Red-headed Woodpeckers in one trap. One of them, however, had forced his head through the wire and choked himself, so all we could save was his skin. The Catbirds came to us in a quantity on May 14, three being caught in one trap at a time and one of the three was the return bird from 1922. Another Catbird proved to be back for the third time, being first banded in 1920; then appeared last year about two blocks from our place and had a nest within two feet of a kitchen window. These people watched it and became very interested and requested us to come over and band the young birds. Upon arrival we noticed the old bird with a band, and with our glasses could see that it was a band a year or more old so we brought over a trap and instructed them how to use it. In a short time they called us up, stating that they had caught the bird and gave us the band number, which proved to be the bird banded in 1920. Now it appears again in our yard in 1923. One other Catbird banded in 1920, on the same day as our much returned bird, returned this year, but where it was in the intervening three years is still a mystery.

Towhees seem to be more numerous this year. At least we have trapped more than usual. In the past they have been very shy birds, seldom repeating, but one particular pair has acquired the trap habit. The female will call to us before we arrive at the trap and if we keep answering she will call back to us many times after she has been released.

One American Crossbill strayed into our yard and was banded, but that was the only one we saw there. There were many others in the evergreens on the Dead River flats, but no other reports of their coming into the city.

A PERSONAL TRIBUTE

Walter Bradford Barrows, B.S., who had been Professor of Zoölogy and Physiology and Curator of the General Museum of the Michigan Agricultural College since February, 1894, died suddenly at East Lansing, Mich., on February 26, 1923.

Bird banding has suffered a great loss in the passing of Professor Barrows. He had an unusual personality, with his broad knowledge of bird life, he was quiet and unassuming, a man of rare mentality and deep sincerity. An hour spent with him convinced one of how much his sympathy and interest would mean to a work such as our Bird Banding. At the close of the American Ornithologists' Union convention in Chicago last fall, Professor Barrows made a trip to Waukegan, Ill., to study traps and methods of banding birds. He discussed the possible benefits of a Bird Banding Department in the Michigan Agricultural College as a means of interesting the students in the work, so that in turn they might carry on the work after leaving the college, also hoping in this way to stimulate the interests of other colleges and universities. Traps were made for Professor Barrows and he had just finished placing them.

It is to be hoped that the college will recognize the worth of the work and have it continued as a tribute to Professor Barrows.

WM. I. LYON.

INLAND BIRD BANDING ASSOCIATION COUNCIL MEET IN CHICAGO

At the call of the President, the Councilors gathered for a meeting in Chicago on May 19 at a dinner in the Chicago City Club. After dinner was over they adjourned to the comfortable parlors of President Baldwin, in the Blackstone Hotel. Those present were: S. Prentiss Baldwin, President; Dr. Leon J. Cole, Vice-President; Wm. I. Lyon, Secretary; Percival Brooks Coffin, Mrs. H. C. Miller, Dr. F. C. Test, Councilors; also Mr. Ruthven Dean, represenaing the Chicago Ornithological Society, and Mr. O. M. Schantz, representing the Illinois Audubon Society, were present.

The Secretary's report was read, showing the activities as follows: Personal letters written covering organization and development of membership 500, newspaper reprints distributed 3000, circular letters and application, magazine reproductions sent out 7000, publicity by the Secretary consisting of articles on Bird Banding in newspapers of Chicago and other nearby cities totaling about 100 articles and covering a circulation of about one million; Bird Banding talks given by the Secretary in 24 nearby cities to audiences totaling about 4000, also two talks from prominent radio broadcasting stations. The Secretary's expense account, covering books, stationery, stamps, circulars and mailing, amounted to $119.71, which was allowed.

Mr. Herbert L. Stoddard, Treasurer, was unable to attend, but sent in a report as follows: Memberships received to date 65; total of receipts, $195.00; expenditures, $3.00, which was accepted and allowed. The 65 members cover nearly all of the states in the Inland territory.

Mr. Dean was asked to act as committee on resolutions; Mr. Samuel E. Perkins of Indianapolis, and Albert F. Ganier of Nashville, Tenn., and Professor J. M. Robinson of Alabama Polytechnic Institute, Auburn, Ala., were elected as Councilors.

A motion sent in by Mr. Stoddard to change the rules to read: that an organization may become a sustaining member was passed.

General discussion on all important subjects followed. It was decided to meet in Chicago again in the fall.

The reports show that the Association was progressing very rapidly and that although the membership was not large, it was made up almost entirely of active workers.

It was voted to have Field Secretaries to aid in the promotion work, and T. E. Musselman of Quincy, Ill., was elected.

Mr. S. Prentiss Baldwin reports that Mr. T. E. Musselman, who had charge of Mr. Baldwin's trapping station in Thomasville, Ga., in February and March, in the forty days of trapping took over 4,000 birds from the traps, banded more than 600 new birds and took 73 birds, returns from previous years. Mr. Musselman, not having previously been engaged in Bird Banding, can now surely qualify as an expert; and he returns to his home in Quincy, Ill., with many an interesting story, and a fine collection of pictures and lantern slides, so that he can now give a series of attractive popular lectures on Bird Banding through the area of the Inland Association.

Mr. Baldwin spent three weeks of March at Thomasville and tells of the mornings with Mr. Musselman in taking birds to the studio of the town photographer, who was kept busy with the new kind of sitters, live wild birds, in many positions and various conditions.

Mr. Musselman's story of his experience will appear in the Auk, July number; this will be followed later by an article on the diseased condition of the feet of Chipping Sparrows. Mr. Baldwin and Mr. Talbot have called attention to the very great proportion of Chipping Sparrows, having diseased feet, at his station, and Mr. Musselmen has given this subject much careful observation this year so we hope for some interesting information on the subject.

Samuel E. Perkins, Indianapolis, Ind., reports:

Twenty bands placed on birds in the first quarter of the year. We have noticed that there has been a number of permits issued to Indianapolis lately, and know that they will have an interesting time in watching the repeats of each other's birds at their own stations.

Other Banders should try to get neighbors that are along the same line of flight, a short distance away, interested in the work so they could compare how far birds will range from feeding stations.

M. J. Magee, Sault Ste. Marie, Mich., reports:

For the information of those interested, I had a small flock of Evening Grosbeaks at my feeding station all winter. Within the last month two larger flocks have joined them and I have now over one hundred Grosbeaks feeding. I have thus far banded thirty-one. Expect to band more. The weather has been very bad. We still have two or three feet of snow on the level and at my house the piles at the sides of the walks are seven to nine feet high today. We have had a great deal of wind, consequently the traps drift full of snow. The Grosbeaks are also very scrappy and you do not dare allow more than two or three in a trap at a time or they will do themselves serious injury. Consequently, I have only been able to have the trap out now and then as I happen to be able to watch it, and that was only three times. I expect the weather will be getting better now and I think I will be able to band more of the flock.

My Purple Finch record now stands:

	1921	1922	1923 to May 8 inc.	
Banded	9	248	235	Total 492

"Returns" reported to May 1..... 3

#30642 Adult Male trapped May 2, 4:15 P. M.
Banded July 17, 1922, 7:15 A. M., as young Male or Female

#30637 Adult Male trapped May 5, 3:30 P. M.
Banded July 14, 1922, 7:00 P. M.

#30650 Adult Male trapped May 5, 3:45 P. M.
Banded July 18, 1922, 7:15 P. M. 3

Total returns..... 6

Last year I commented on the fact that the first Purple Finches to come in moved on and were not the ones that were around all summer and nested. Results this year so far confirm this, of all the Finches banded this year to date I have had but two "Repeats."

A letter from a friend at State Line, Wis., states that he believes that Mr. and Mrs. George Fisher have banded every Crossbill in the country. We hope he is right and that they may continue to be successful.

NOTE.—It gives this department much pleasure to include the following report in its columns, as we believe it is the beginning of this kind of work in colleges and other institutions:

AUBURN BIRD BANDING STATION
ALABAMA POLYTECHNIC INSTITUTE
COLLEGE OF AGRICULTURE
DEPARTMENT OF ZOÖLOGY AND ENTOMOLOGY

January 29th, 1923, saw the begnning of a Course in Economic Ornithology in our institution. Twelve men registered for the course. The members of the department have obtained official bird banding permits from the Bureau of Biological Survey at Washington, D. C., and from

the office of the State Department of Conservation, Mr. I. T. Quinn, Commissioner, Montgomery, Alabama.

The department was also able to obtain a bird banding permit from the State Commissioners' office for Graduate Senior Students in Ornithology, each member of the class receiving a permit from the Bureau of Survey at Washington.

We have spent part of the laboratory periods constructing cages of different types. On the 11th of February a Cowbird was found in an insect cage tray, our first catch, 70205. Since then, at various intervals, we have caught 35 Cowbirds.

Mr. A. L. Hamner discovered on the 26th of February that there were a lot of small birds feeding on some hickory nut kernels. We proceeded with a No. 4 trigger trap to catch the BIRDS. We caught them. They were Pine Siskin. Next day many repeated and more new ones came. This was in a path just in front of the green house header, where the students and help were passing many times every hour. Mr. Hamner took time off and built a larger trap with a funnel on each of three sides. Hickory nut kernels were used and the siskin came into the cage in numbers. A small box was placed on the fourth side of the cage with a lighter funnel and this has served as the collecting box for the catch. This trap has been so successful that we have banded 99 siskin. More have come to the trap but our supply of bands of this size is exhausted at present. Forty-eight have repeated and one has repeated five times.

Summary of banding at Auburn Station, March 7, 1923, 9:30 A. M.:

Pine Siskin	99
Cowbirds	35
Brown Thrasher	3
Song Sparrow	1
Total	138

We have as our goal for each student to band fifty birds. We feel that would make us a good beginning as a new station, which we trust will become permanent and be a factor in stimulating interest throughout the country in observing and banding birds instead of shooting birds.

The class roll in Economic Ornithology at our institution is as follows:

Bridges, J. E.
Cladwell, E. G.
Davis, P. N.
Hamner, A. L.
Jones, J. M.
Pistole, W. M.
Pritchett, W. P.
Ruffin, W. A.
Russell, R. O.
Satterfield, R. M.
Savage, Cole
Tatum, C. D.

J. M. Robinson,
Associate Professor, Zoölogy and Entomology.

Walter G. Gerth, Wolsey, S. Dak., reports:

In the night of January 19th to 20th we had a snow storm which, however, was nothing unusual. The next morning one of my pupils

brought a Lapland Longspur to me. It was somewhat crippled. Soon another one came with one that was half frozen. These I quickly took into my house and administered first aid. Thereupon I instructed the boys to find all they could. That afternoon they came with a considerable number of the birds. Many were already frozen, but still others could be helped. Well, that day my house was turned into a bird hospital.

The live specimens I had numbered 22. However, some of these were in such condition that they did not survive, in spite of the care I tried to give them. Nevertheless, 18 of them recuperated. Having a fair sized screen porch I made hasty arrangements to place them there until favorable weather conditions may permit their departure. Needless to say, these birds brought me much entertainment, for they were a merry sort. Some of the males were rather restless at times and preferred to have their freedom. A few would bite at times when I would handle them, but the majority were well behaved. Soon they forgot their shyness, for they quickly learned that they received their feed quite regularly.

At feeding time they would first flit away, but no sooner would I make a break to go to the door, then would quickly come back to feed. As long as I had access I fed them millet tops. These they seemed to like the best. I also tried bread crumbs with lard poured over them, also an occasional piece of suet. At times I would coax them to take food from my hands. On one occasion I succeeded. I suppose they would have done this oftener had I kept it up, but time did not always permit me to tarry long.

Sometimes I would change the place where I put the feed and it was then interesting to see them look for it. They expected food everytime I came out to them. Now if (a few could) they could not see it at once, a few would go on the search. Having found the treasure in some corner or box they would utter their melodious call and soon they would all be enjoying a hearty feast. If the box would be six or eight inches high I would lean a light board against the side. Soon the little fellows would find the reason for the "gangplank" to the mess hall.

It was during this time that I thought of banding them before setting them free. After much inquiry I finally was directed to the Agricultural Department for a license and bands. During the course of time some of the birds were seeking freedom and flew away through a hole in the screen which I had not detected before. Thus fourteen remained to be banded. One of these died from some unknown cause, so lucky thirteen were still there awaiting the bands. Of these I was able to band ten. They being banded, I opened the door to their freedom. Eight of them left the same day; the other five remained, but I kept the door open every day. However, they seemed to prefer their present location to freedom, for even though I left the door open every day, they would still be there in the evening.

On Tuesday we got two of them to fly out, but they seemed as though they felt they were driven away from home. Three times the two circled the house before they perched on one of the limbs of a nearby tree, where they remained for some time uttering their plaintive call. I thought they would be back the next morning, but they were off.

Now my bird family is reduced to three. They have perfect freedom to go when they choose, but I guess they are well pleased where they are. The large door is open daily, and to induce them to fly away I set their feed just before the open screen door. And what do you think? The other day one of them hopped down on the front stairway to peck at something. Then, hearing a sound, instead of flying away, no, she politely flies back where she came from, just like a child that quickly runs into the house when it fears something outside.

Thus, Mr. Lyon, I have had both profit and pleasure from having these little feathered friends with me. Next winter I will be prepared to take care of more of them in case they should be overcome by a storm. Guess then I'll have to hire a nurse to care for my patients while I tend to my regular duties.

WALTER G. GERTH.

Wolsey, S. Dak.

FIELD NOTES

A CHARNAL HOUSE FOR A HONEYMOON

On July 11 and 14 a pair of house wrens nesting in a box in the yard were banded and the family to come was evidenced by the three eggs in the nest.

We went on a trip up North and were gone about ten days. When we returned we knew something was wrong, for while two wrens kept going in and out only one wore a band.

After two or three days the wrens did not go to the nest and my son climbed the tree to investigate.

He lifted the cover and found an attempt had been made to build a new nest on top of the other and quite a quantity of sticks and nesting material had been carried in.

The odor was strong and he, upon close examination, saw a little head under the pile of nesting material.

He removed all this with considerable pulling and was amazed to see the little banded Mother setting on four eggs dead, and decomposing, and with one egg still attached by a membrane.

Her faithless Spouse had already taken a new mate, had attempted to turn the charnal house into a home and raise a new brood, until he was forced to abandon the venture on account of the odor.

MRS. H. C. MILLER.

Racine, Wis.

NEW LOCALITY FOR THE WOOD DUCK

On March 29, 1923, at 10:30 A. M., a pair of wood ducks were seen on Stoner Creek, Bourbon County, Kentucky, about one and one-half miles from Paris, Ky. This is the first record for the wood duck for the Blue Grass region of the state. The male and female were swimming side by side close to the shore and offered an excellent opportunity for observation. Weather clear and cold. Observers: Victor Dodge, Professor A. M. Miller, and Dr. W. D. Funkhouser of Lexington, Ky.

W. D. FUNKHOUSER.

University of Kentucky.

BACHMAN WARBLER AT VERSAILLES, KENTUCKY

On May 12, 1923, I picked up in the edge of Versailles, Ky., the lifeless body of a Bachman's Warbler in rather bad condition, but sufficiently well preserved to make identification accurately. This is the first specimen I have ever found here in my several years' of intensive study. It helps to corroborate the notes on this species from Bowling Green, Ky., by Gordon Wilson, published in the April, 1922, Auk.

DR. L. O. PINDAR,

President of the Kentucky Ornithological Society, Versailles, Ky.

BALD EAGLE IN FRANKLIN COUNTY, KENTUCKY

About May 1, 1923, I was in the office of the Kentucky Fish and Game Commissioner at Frankfort. While there I saw a mounted specimen of a young Bald Eagle in the dark plumage (the "Black Eagle"), killed last fall in Franklin County. When I lived in that county there was a tradition that a pair of Bald Eagles had lived and nested for years in a certain tract of woods near Woodlake, about seven miles from Frankfort. I looked and hunted for them faithfully during my residence there (from March 1, 1897, to November 3, 1904), but never saw one, and did not include the Bald Eagle in my list of birds of Franklin County, though I did note this legend as indicating that formerly these birds had probably nested there. According to the information received from Mr. Meredith, the Superintendent of Game Wardens of Kentucky, this eagle was killed in or near the exact locality indicated by the tradition referred to above and seems to confirm the tradition.

DR. L. O. PINDAR,
President of the Kentucky Ornithological Society, Versailles, Ky.

RANDOM NOTES FROM COLUMBUS, OHIO

The European Starling appears to have established itself permanently in this vicinity. I first observed it on November 20, 1921. In the fall of 1922 several individuals were seen in widely separated localities. This winter, a flock of over 30 has been seen continuously near Greenlawn Cemetery.

At least two Myrtle Warblers spent the winter in Greenlawn Cemetery this year. Although they appear to winter not uncommonly in the East, this is the first winter record for Ohio which has been called to my attention.

On March 18 at Buckeye Lake, a party of which I was a member observed what certainly must have been a male of the Barrow's Goldeneye. The specimen was quite tame and was well observed in a good light. All of the five members of the party were equipped with 8x prism binoculars and in addition I viewed the bird through a 30x telescope. The distinguishing characteristics were carefully noted: purplish gloss to head; long narrow white spot at base of bill, fully one inch in length, and the comparative lack of white on the shoulders and scapulars as contrasted with the other species. I am satisfied that I saw two males of the same species in early March of last year, also, but was unable to verify the identification.

Due, no doubt, to the open winter and the abundance of beech nuts and wild fruits of all sorts, many more birds wintered in this vicinity than usual. Red-headed Woodpeckers were to be found in every beech woods. Robins and Bluebirds were not uncommon. In common with other localities throughout the United States Pine Siskins were seen frequently all winter, as were a few Redpolls. Other rather unusual winter species were: Red-breasted Nuthatch, Rough-legged Hawk, Towhee, Wilson's Snipe, many flocks of Cedar Waxwings, and numbers of Meadowlarks.

On January 28 a flock of about ten Black Vultures were carefully observed below Sugar Grove, 37 miles southeast of Columbus, and for some time we had an opportunity to note their distinctive characteristics.

EDWARD S. THOMAS.

Columbus, Ohio.

NOTES ON THE FLORIDA BURROWING OWL

In looking over some Burrowing Owls (*Speotyto*) from Florida, I noticed those taken at Miami Beach were much darker than those from the interior of the state. This owl is rather rare in the costal area, and does not at the present time occur on the large prairies adjoining Cape Sable. No doubt the large filled-in area around Miami Beach, and the three golf courses, has attracted these birds to this point, though I have noted them further north, along the Ocean Boulevard,* where no clearing other than the right-of-way has been. A comparison of my interior state specimens (Okeechobee), with specimen kindly loaned me by the National Museum (Kissimmee River), compare favorably, though mine were taken in the breeding season, May, while theirs were in February. In comparing the Bahama form of *Speotyto*, kindly loaned by the National Museum, with those of Florida, I find the breeding bird (June 28) worn and in the same plumage as the Okeechobee breeding birds, while the winter plumage, December 20th, Bahama birds correspond equally as well with the February birds from the interior of Florida.

Personally, I find little, if any, difference to have made the Bahaman form from. As a rule, all males in the *Speotyto* run lighter in color than the females, though I have one female from the Beach that corresponds favorably with a male. I have always been opposed to the hair splitting subspecie game, unless the specimen can show some great and easily distinguished difference in color or size (such as *Falco S. pealus*). While the coastal birds are easily distinguishable by their darker coat and heavier white markings in wings and back, and finer markings of white on head, I am refraining at the present time at least from becoming a real hair splitter.

H. H. BAILEY.

Miami, Beach., Fla., March 5, 1923.

* See Oologist. Nov., 1922, Page 164.

A BABY HUMMER

One day last spring, 1922, while I was taking my Nature Study class on a field trip, we saw a full-grown female Hummingbird rise from a tree and fly across an open space. What seemed to be a large Bumblebee followed her. Purely by accident I looked closely at the supposed Bumblebee, only to find that it was a baby Hummingbird, not one-fourth the size of its mother. Since I was within a few feet of the birds I could not possibly be mistaken, especially when three dozen students

saw the same thing, many of them independently of the others. Though the Hummingbird has been known to me all my life, I have never at any other time seen a baby bird so much smaller than the adult. Doubting whether I should write this note for publication, I told the incident to Dr. L. O. Pindar of Versailles, Kentucky, who is the veteran bird student of this state. He records that he had never seen anything like this until last spring also. I should like to know how common this phenomenon is. We have all seen young Bobwhites only a few hours old running around in a meadow, and flying before they were grown, but I have been unable to find any reference to Hummingbirds sharing this precosity.

GORDON WILSON.

Bowling Green, Ky.

A BUFF-BREASTED SANDPIPER

As a rule, sight records of very rare birds must be taken charily. When I published in *Auk* my check-list of birds for this locality I was afraid of casting doubt upon my whole record of ten years' study here if I included the Buff-breasted Sandpiper, two of which I recorded at close range in April, 1918. On September 7, 1922, while I was standing at the edge of Hobson's Marsh near this town a sandpiper flew up within a few feet of me. I followed it to the opposite side of the pond, where I stood within ten feet of the bird for several minutes. At first I thought it was the Pectoral Sandpiper but I soon saw that it lacked the distinctive markings of that species. Fortunately, I had in my hands a bird-book with a very good drawing of the Buff-breasted Sandpiper, accompanied by an accurate description of its markings. The markings of this bird so closely coincided with those of the picture and the description that there is no doubt in my mind that it was really the Buff-breasted. I told the story of my find to Mr. A. F. Ganier, who was convinced that my identification was correct and who advised me to submit my data to the Editor of the Wilson Bulletin for publication.

GORDON WILSON.

Bowling Green, Ky.

SOME NEW WINTER RECORDS

The early part of the winter just past, 1922-23, was very mild here. I suppose it was for this reason that three birds which are usually found only in the summer spent the entire winter: the Red-headed Woodpecker, the Bronzed Grackle, and the Red-winged Blackbird. There is great irregularity about the winter distribution of the Red headed Woodpecker in this state. In some sections farther north it is always found the year round but my latest previous record for this place was October 15 (1921). Though it was not found in the same abundance as in summer, there never was a time this winter when three or four could not be seen on an afternoon walk. The Red-winged Blackbird has always stayed late in the fall, November 12 (1921) being my latest record, but this winter it was common throughout the months of January, February

and March, having also been seen in numbers during Christmas week. The Bronzed Grackle has shortened its stay in the South for several winters, its season here being in 1920, February 22 to November 27; in 1921, February 4 to November 23. In 1922 it arrived January 21 and has been common to abundant ever since that time. In spite of very severe winter weather in February and March, 1923, it, unlike its habit in former years, remained common. Just as the unusually severe winter of 1917-18 caused birds not previously seen here to remain even several weeks, such as the Tree Sparrow, which has been a regular winter resident ever since, so, I believe, the recurrence of mild winters might cause some more of our summer residents to become permanent residents.

GORDON WILSON.

Bowling Green, Ky.

MIGRANT SHRIKE NESTING IN KENTUCKY

In my eleven or twelve years' experience as a bird observer here I have found only two nests of the Migrant Shrike, one in the spring of 1912, the other on April 11, 1923. The first nest contained four young just out of the shell and was a crude affair of honey-locust thorns and coarse sticks. The female bird flew off the nest just as I came near and scolded in her harsh way as long as I was around. The male was building the nest I found recently and had it almost finished. The Migrant Shrike is such a very rare bird here that I usually see no more than three or four in a single season. Consequently, I have felt considerable pride in my recent find.

Bowling Green, Ky. GORDON WILSON.

AN UNUSUAL FIND OF DUCKS

On April 13, 1923, I was motoring with a party of friends through the southern part of Warren County. There had been a number of heavy rains and all the lowlands were flooded. At the farm of Mr. C. U. McElroy, near Rich Pond, Kentucky, some hundred acres were covered with water from an inch to several feet in depth. Over this entire area there were flocks of ducks, estimated by the members of the party as fully ten thousand in number. Flocks were continually leaving or arriving. As a severe thunder-storm was coming, it was impossible for me to study the ducks at close range. Consequently, I could recognize only those small flocks which came near the road. These flocks were made up of Blue-winged Teals and Mallards, but some of the ducks on the pond seemed to be large and dark colored. In 1912 I visited this same pond, finding, besides the common ducks of our ponds and rivers, the White-winged Scoter and other rarer ducks. It is unusual here to see at any time of the year more than twenty or thirty ducks, though along the numerous large rivers of Kentucky greater numbers are often seen.

GORDON WILSON.

Bowling Green, Ky.

NOTES—HERE AND THERE

Conducted by the Secretary

The new Secretary owes the members of the Wilson Ornithological Club an apology for making such a late bow. When he succeeded Mr. A. F. Gainer of Nashville, Tenn., as Secretary, he hoped to continue the column so ably edited by his predecessor. When the March Bulletin went to press, he was dangerously ill with influenza and was unable to supply any news or notes. Now, when he is himself again, he wishes to thank the Club for accepting him on Ganier's recommendation, and to assure the Club that he can think of nothing greater for him to do than to give the cause of ornithology the same tireless service that made the former Secretary well-known and respected all over our country.

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The Gray-Von Allmen Sanitary Milk Company of Louisville, Ky., have issued a very attractive series of blotters which have lithographs in natural colors of some dozen of our common birds. The scenic background illustrating the habitat of the birds is well done, also.

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Mrs. Lewis H. Mounts, one of our members, formerly of Cedar Rapids, Iowa, is now a teacher in the Ballard Normal School in Macon, Georgia. She reports a general disregard of the sacredness of bird life in her section, and especially condemns the wanton destruction of song birds. Birds are rigidly protected on the campus of the school in which she is a teacher, and this start will help, we hope, the cause of bird protection.

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Mr. Ben J. Blincoe of Dayton, Ohio, is preparing for publication his extensive notes on bird life in Nelson County, Kentucky, his former home. There have been many changes since C. W. Beckham published his check-list on that region in 1885, and Mr. Blincoe's careful studies will be welcomed, especially by the few bird students of Kentucky.

* * * * * * * * *

In February, 1923, there was organized in Ames, Iowa, in connection with the State Conservation Meeting, the Iowa Ornithologists' Union, modeled after the Nebraska organization. The chief purposes of the society are to foster interest in bird life, to have "get-together" meetings once or twice a year, and to form a clearing-house for field notes and observations. An organ for the society was discussed, with the conclusion that the Wilson Bulletin was the logical one. Mr. W. M. Rosen, President of the City State Bank of Ogden, Iowa, was chosen President of the new society. Professor T. C. Stephens of the Editorial Board of the Wilson Bulletin, is also prominent in this organization. This general grouping of all the bird students of a state in a state organization is a good movement and promises to add materially to the number of people

who take an active interest in the out of-doors. Why do not all the states form such socities?

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Soon after the Iowa Ornithologists' Union was organized, the bird students of Kentucky began planning a similar society, with the result that on April 19, 1923, several people attending the Kentucky Educational Association in Louisville projected a Kentucky Ornithological Society to be run on lines similar to those of the Wilson Club and the state societies. Officers were elected as follows:

President—Dr. L. O. Pindar, Versailles.

Vice-President—Mr. B. C. Bacon, Madisonville.

Secretary-Treasurer—Gordon Wilson, Bowling Green.

The Wilson Bulletin is to be sent to every member as a part of "value received" for the membership fee. It was decided to attempt no organ at present, but to seek affiliation with the Wilson Club.

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One of our new applicants is Mr. O. W. Smith, the veteran student of fishing and all its allied branches and the author of those two delightful books, "Casting Tackle and Methods" and "The Book of the Pike." Mr. Smith says, in a letter to the Secretary, "Fishing is a business with me, not a recreation; and bird-study the recreation."

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One of the most attractive of the outdoor publications is the new *Nature Magazine*, which formally made its bow to the public with the January issue. Mr. Percival Sheldon Ridsdale is Managing Editor, Mr. Arthur Newton Pack is Associate Editor, and they have associated with them a large group of the foremost naturalists in America. The illustrations of the magazine are one of its most prominent features, giving a great impetus to accurate outdoor photography. Ernest Harold Baynes, the well-known author of nature literature, is one of the regular contributors, as are also the famous nature photographer, L. W. Brownell; William L. Finley, the naturalist, who is conducting an interesting series on American Trees; T. Gilbert Pearson, the President of the National Association of Audubon Societies; and Walter B. Balch, the eminent agriculturist. We welcome this new comer in the hope that it will continue its policy of bringing into our homes the very spirit of the uncontaminated outdoors.

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Mr. Carl D. Herdman, another of our applicants, has made his home in the suburbs of Bowling Green, Kentucky, one of the show places in that section. Several years ago he acquired a house on a five-acre lot which had been litt'e touched by the hand of man. At once he began to preserve the natural wildness of the place and to add trees, flowers, and shrubs in keeping with the natural beauty of the place. He has put up 65 different devices to attract or encourage birds. In one corner of the lot he has made a sanctuary for the birds, where they can bathe, or nest, or rest, without fear of cats or English sparrows.

Owners of suburban homes everywhere could profit by emulating his splendid work for the birds.

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The American Association for the Advancement of Science, with which the Wilson Club is affiliated, will hold its annual session at Cincinnati, Ohio, December 27, 1923, to January 2, 1924. An invitation has been extended to the Wilson Club to meet with them at that time.

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A very careful study of the bird-censuses published in the January-February Bird-Lore showed that a large percentage of these contributors were members of the W. O. C. We are glad that our members are everywhere active in creating and fostering an interest in ornithology.

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No organization can continue to serve the best interests of its members without taking in new, virile members from time to time. We welcome, then, the men and women who became part of the W. O. C. at the last election and just as eagerly open our arms to those who are at present on the waiting-list to become members. In all our territory there are many people who are just waiting, as you and I were, to become one of the vigorous supporters of this society. It is this belief which has made your new Secretary conduct a drive for new members and which prompts him to urge every member or well-wisher of the W. O. C. to send in names of people who might be induced to become one of us. **Let every member secure another one this year.**

G. W.

CORRESPONDENCE

"ROUND ROBIN LETTER" A SUCCESSFUL BIRD STUDY STIMULUS

At the present time bird study in America stands at a high point of efficiency and system. The various methods of studying bird-life have been worked out and developed for years, and new ideas and problems pertaining to the subject are continually coming into significance as the number of disciples of Wilson and Audubon increases.

A somewhat new method of stimulating interest in bird study has been very successfully put into practice in Iowa in the winter just past. This plan, which is essentially different from any other that I know, is a "chain" letter replete with bird notes and experiences. It is familiarly known as the "Round Robin" letter.

Though the plan is simple its potentialities are great. The letter is circulated among five or more bird students. The person who starts the letter chain writes a bird letter, sends it to the second observer who adds to it his letter and forwards it to the third station, and so on until the entire circle has been completed. When the letter returns to the first writer, he removes from it his first contribution, writes a new one, and again sends it on. Thus the bird letter makes the rounds and the matter is always new and up to date.

This plan was introduced in our state by Mr. Charles J. Spiker, a New Hampton bird enthusiast. Our chain contains seven of us Iowa bird students, representing as many regions of the state, and we have all found the letter highly entertaining and instructive, not to mention the stimulus and enthusiasm it has given us during the winter season, when birds are scarce and interest is usually lax. Seven is about the proper number of observers to conduct a circle successfully, because this keeps it circulating in a reasonable length of time. More than seven or eight contributors would necessarily make the letter much slower and lessen the interest. With seven in the chain, the letter has about four days for each station—three days in which the letter may be read and a new one written, and a day's passage in the mails—if it is to be run on a regular monthly schedule.

The contents of the "Round Robin" letter are always intensely interesting and contain a personal element that is never found in bird magazines or similar publications. Since the letters are usually long, the bundle is bulky and contains a great deal of reading matter. Up-to-the-minute bird notes, descriptions of favorite "birding" grounds, bird books, feeding station and bird-banding experiences, are some of the topics brought up for discussion and exchange. In our chain we also have a department of photographs which further adds to the interest. At all times there is a brotherly spirit and a mutual understanding that one seldom finds with people not personally acquainted. The farmer-bird-lover and the city banker are alike interested in some diminutive Warbler; the busy housewife gives the college student or perhaps minister some pointers on identifying a Hawk; bird lovers are members of

a great natural brotherhood, irrespective of occupation in life. These bird letter chains will eventually lead to a meeting, perhaps at some picturesque spot such as a state park, where the writers will become personally acquainted with one another. In this era of autos and good roads, this can be easily accomplished.

I have given only a brief outline of the Round Robin idea. That it has many possibilities is evident. It can no doubt be developed in many ways and prove useful to bird-thinking people in other parts of the country. A letter representing various states instead of localities in one state would no doubt be successful, and there are other angles to work from. Get your circle of bird students together and start your letter rolling. We Iowans have enjoyed ours very much and should like to see the plan put into practice in other states.

FRED J. PIERCE.

Winthrop, Iowa, March 5, 1923.

Milwaukee, Wis., March 27th, 1923.

MR. LYNDS JONES,
Editor-in-Chief of The Wilson Bulletin,
Oberlin, Ohio.

Dear Sir:—

The editorial in the current issue of The Bulletin emboldens me to send to you the enclosed copies of an exchange of letters some time ago between Professor F. E. L. Beal and myself. Hitherto I have refrained from acting on Professor Beal's suggestion, but you are free to use the letters if you so desire.

My thought in sending them to you is that their publication either in full or in abstracted form might encourage others to similar experiments to their intense personal satisfaction even if nothing of real scientific value resulted.

Very truly yours,

GARDNER P. STICKNEY.

U. S. Dept. Ag., Washington D. C., Jan. 14th, 1914.

GARDNER P. STICKNEY.
Milwaukee, Wis.

Dear Sir:—

Your very interesting letter of the 10th inst. is at hand. Thank you for the account that it contains. It is an excellent illustration of the changes that occur in the food habits of birds under changed conditions. When the storm cleansed the air of their usual food they at once turned their attention to the berries as the most available substitute. It is a little singular that these birds should be so far north so late in the year. The flycatchers are mostly rather early migrants.

Another point of interest is the ease with which you succeeded in winning their confidence and made friends of them. It is a sad

commentary on the character of man, that, as a rule all other creatures avoid him and retreat at his approach. Thousands of instances show that a large part of the animal world is ready to reciprocate our friendship if we will only make the first advances. Unfortunately the ruling passion of the human race seems to be to exterminate the rest of the animal kingdom.

It seems to me that your account of this little incident is worth preserving and I hope you will send it to some of the numerous Nature publications who no doubt would be glad to print it. Thanking you again, I remain,

Very truly yours,

F. E. L. Beal.

January 10, 1914.

Prof. F. E. L. Beal,
Care Biological Survey,
Department of Agriculture, Washington, D. C.

My dear Sir:—

I have just been reading with great interest the bulletin of the Biological Survey written by yourself on the food of certain flycatchers. I was particularly interested in that section of your paper bearing upon the yellow-bellied flycatcher (*Empidonax flaviventris*), noting that, according to your laboratory investigations, the food of this bird is composed so very largely of animal matter.

It happens that the last two weeks of September, 1913, I spent with two companions at our fishing camp in Northern Wisconsin and had an opportunity to observe a number of these birds at very close range. Our camp, located in Section 15, Township 44 North, Range 4 East, is upon an island of about an acre and a half, and between the log camp and the shore to the South there are four or five small mountain-ash trees. These trees were in very full fruit when we reached camp about the 15th of September. About a week later we had a very heavy twenty-four hours snow-storm of very wet snow, covering the ground to a depth of about four inches. Almost immediately after the cessation of the storm, birds of various sorts appeared in the mountain-ash trees feeding on the berries. There were a good many hermit thrushes, a large flock of cedar-birds and a number of flickers and some smaller birds. Each one of these birds bolted the berries, that is, the bird would pick a berry, hold it for a minute and then swallow it whole. In the afternoon of the day following the storm, two yellow-bellied flycatchers appeared among the other birds in these small trees and seemed to be very fond of the mountain-ash berries. Instead of handling the berries as the other birds did, the flycatcher would pick a berry and crush it between its mandibles, getting out the pulp and dropping the skin, rather perfectly clean, to the ground. There were so many of the birds of various sorts and the berries were going so

rapidly, that I detached four or five bunches of the berries and took them into camp.

It took only two or three days for the birds to otherwise entirely denude the trees of the berries and after the last berry had been picked from the trees, I noted two flycatchers hopping around on the ground and picking up the berries which had been dropped as the various species were feeding in the trees. The flycatchers were very tame and it occurred to me that I might feed them with some of the berries which I had previously picked and had in the camp. Working very carefully in an hour or two I had these two yellow-bellied flycatchers on my knee, picking the mountain-ash berries from between my thumb and fore-finger. It was a very delightful experience and it was interesting to see how thoroughly the flycatchers would clean the berries, eating everything but the skins, which they invariably dropped to the ground. The birds stayed around for two or three days, in fact as long as I had any berries to feed them, and then disappeared. The last day that they were with us was bright and sunny and they spent most of their time fly-catching, but would occasionally come back to me and take a berry.

This experience of mine was so unusual that I think it may be of interest to bird students generally and this is my excuse for burdening you with the above account.

Yours truly,

GARDNER P. STICKNEY.

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